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STUDIES IN LANDSCAPE DESIGN

G. A. JELLICOE

STUDIES
IN
LANDSCAPE
DESIGN

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TO
MY WIFE

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INTRODUCTION

THESE Studies are based on lectures and addresses given to varying types of audiences over the past few years,* and consequently derive from the spoken word. Although each is apparently self-contained, and was originally prepared as such, the series forms a continuous whole. The studies lead us from the comparative security of the landscape arts of the Italian Renaissance to those of the expanding universe of the present day. Very broadly, the first two studies are historical; the next two are an assessment of contemporary landscape throughout the world; and the remaining three are creative and are concerned with England.

Landscape architecture is probably the oldest and least recognized of all the physical arts. It is only in recent years that it has begun to be accepted as an art very much wider than that of garden and park design. As people multiply and the surface of the land tends to be harnessed more and more to human needs, so it becomes paramount that the environment should be organized and made seemly. One aspect of this is the preservation of the natural landscape, which is the province of the planner rather than the landscape architect; but the second, with which these studies are concerned, is the artificial shaping of the land to accommodate the innumerable activities of the modern world.

The studies are concerned with ideas only. They indicate that the world of art is by no means bankrupt of ideas, and that after a century and a half of the doldrums, we have ahead of us in the not too remote future an art which could compare favourably with the great periods of the past. There appears no doubt whatsoever that these periods coincided with a sense of identity between the individual and his conception of the universe. The universe as we know it today is in constant flux in space

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and time, and to this mutability we must now be finally reconciled. It is by no means impossible that landscape architecture may prove by its nature to be the art most amenable to express such a space-time concept, and if this were so, it could give added significance to our environment, and thus to our lives.

G. A. J.

January 1959

* They were as follows:

I THE ITALIAN GARDEN OF THE RENAISSANCE

The Selwyn Brinton Lecture given to the Royal Society of Arts, London, 3 December 1952.

II ONE HUNDRED AND FIFTY YEARS OF ENGLISH LANDSCAPE

Commissioned by the Royal Horticultural Society to celebrate the one hundred and fiftieth anniversary of the foundation of the society, and delivered extempore to the Institute of Landscape Architects, London, 21 October 1954.

III THE SEARCH FOR A PARADISE GARDEN

The Opening Address to the fourth Conference of the International Federation of Landscape Architects, Vienna, 8 June 1954.

IV OURSELVES AND HISTORY

The Opening Address to the sixth conference of the International Federation of Landscape Architects, Washington D.C., 1 July 1958.

V BUILDING IN THE LANDSCAPE

An address given to the Royal Institute of British Architects, London, 5 March 1957.

VI MOTORWAYS

The fourth Rees Jeffreys Triennial Lecture delivered to the Town Planning Institute, London, 9 October 1958.

VII SCALE, DIVERSITY, AND SPACE

Based on an address to the annual conference of the National Playing Fields Association, London, 29 October 1958.

I

The Italian Garden of the Renaissance

THE art of garden design of the Renaissance in Italy was as significant and varied as any art in the history of the world, and if it does not rank in general esteem as high as that of painting, sculpture, and architecture, this is only because its opportunities were less and it was more subject to decay. Nevertheless the garden illustrates the principles of design probably more clearly than any of the sister arts; for like painting it is pure abstraction and unnecessary to existence, and like architecture it has a content into which one can penetrate and for a while become a part.

Elsewhere in these studies the Italian garden is described as affording a unique opportunity to examine the response of the human mind to geometry. Classical Roman planning, upon which it is based technically, had pointed the way to an organization of space which appropriately expressed the Roman sense of law and order. It is, however, to pre-Alexandrian Greece that the Italian garden owes its real origin. Although the Roman developed the technique of garden making through his villas, it was the Greek (who did not make gardens) who evolved the philosophy. From Greece sprang the inquiring and deductive individual, who became submerged during the Roman civilization and the dark ages, but who reappeared as the motivating force of the Renaissance. To him we owe the multitudes of villas and gardens, of infinite variety, which are scattered throughout the Italian countryside.

In the classical world, to which the Renaissance belongs, the

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philosophy of life was simple: man was the centre of the universe. The more he and his art identified themselves with the sublimity of the universe, the more he felt a sense of fulfilment. The Renaissance in Rome began with this majestic conception, which reached its climax under Raphael, and it seemed to be a philosophy without a flaw until the stability and constancy of the heavens were called in question. It now appears to us that Renaissance art was unjustifiably assured and finite, but taken in its context, its search for calm beauty as its objective was wholly justified. As the Renaissance progressed, the arts became more original and more varied, an indication of the further development of the individual and his personal idiosyncrasies; but however far it wandered into original design, it never, until the later years, lost touch with the geometry of Euclid, itself accepted a absolute, finite, and infallible as the heavens themselves.

All Italian gardens are therefore geometric, and their beauty lies largely in the reconciliation of the up-surging, logical, scientific, and ordered mind of man searching for its objective, with the waywardness of nature. The basic materials are grey stone, gravel walks, clipped evergreens, and water: materials which are soft and cool to the senses, but, like those of architecture, unchanging with the seasons. There was no accepted place for flowers, not so much because the climate was unsuitable, as that they formed no part in the scheme of things. In idea there were only two parties concerned in gardens: man and the universe; and nature in any other form except as a kindly provider of materials would have been an intrusion.

The garden was an extension of the house into its surroundings, and the Italian was a master of the delights which play upon the senses: dappled shadows, the patterning of box parterre, the inviting glimpse of distant views, the sound of water, and even, occasionally, the feel of water from unsuspected secret fountains. But these attributes by themselves do not constitute a work of art. The Italian garden is the embodiment of an idea, and

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everything is directed to enhancing the perception of the visitor in order to attach him more firmly to it.

The arts most akin to garden design are certainly painting and architecture, and these at once confront us with the difficult question of distortion and illusion. If Canaletto's apparently exactly painted campanile of St. Mark's is compared with a photograph, it will be found to be more slender than the original. The idea of an object is in a sense more real than the real, and this is why in all the great periods of architecture there is often, to the practical modern mind, an apparent straying from the axiom that the exterior should precisely repeat the interior, or that the materials should not be make-believe. The Italians were unscrupulously untruthful in matters which to them were of no value, but they were strictly truthful in expressing the essence or idea of their conception. Nobody minded very much if windows were false, vistas were a fake perspective, or even if marble were not marble at all, provided such deceptions helped to engender the emotion the designer wished to arouse.

This world of ideas was based on four essential elements: geometry, the human figure, movement, and environment.

Geometry: This elusive link between the mind of man and the universe has been a continuous subject for research from antiquity to the present day. Its influence upon art is static if the universe is felt to be unchanging, and dynamic if it is felt to be expanding, changing, and altogether mutable, as it is today.

The Human Figure: It is this that gives what Bernard Berenson, speaking of painting, describes as 'tactile values', a feeling that we have been attached to our surroundings. A feeling for the beauty of form of the human nude was a preoccupation second only to geometry, and the emotion of it was breathed into gardens by sculpture, mouldings, balustrades, and all those rounded forms which are an echo of the human proportions.

Movement: The universe and everything in it are in constant

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motion, and even a work of art whose objective is stability and repose, must contain a measure of movement to avoid becoming inert. The mathematical sciences provide movement by repetition of objects, the biological by their fluidity or 'flow'.

Environment: This fourth element of the arts is more formidable in landscape than in any sister art, not excluding architecture. It has been described as *genius loci*; and it is one of the qualities of Italian gardens that with all their emphasis on geometry, this geometry appears itself to be the essence of the site whether hilly or flat, wooded or bare.

Nowhere are these four elements combined more beautifully than in Giovanni Bellini's 'The Earthly Paradise' (pl. 16).

Geographically the gardens of Italy are fairly evenly distributed northwards from Naples. As with the sister arts, the highest achievements centred on Rome, Florence, and Venice. Each of these three great states made a separate contribution to garden art. It may be said in principle that the garden art of Rome was a kind of climax to the contribution of antiquity to the western civilization, the ultimate significance of which is seen in the Villa Lante at Bagnaia; that Florence illustrates man poised between the ancient and the modern world as we know it today; and that Venice and the Venetian mainland are the springboard of the future. Let us consider three gardens near Rome, three near Florence, and two near Venice, one of which is in fact not so much a garden as an environment.

Rome

The development of the garden arts always tends to lag behind that of the sister arts, and it was not until early in the sixteenth century, or about two centuries after the Renaissance itself had started in Florence, that the first great classic garden since antiquity was laid out. This was the Villa Madama, a short way outside Rome, which was designed on the principles of a

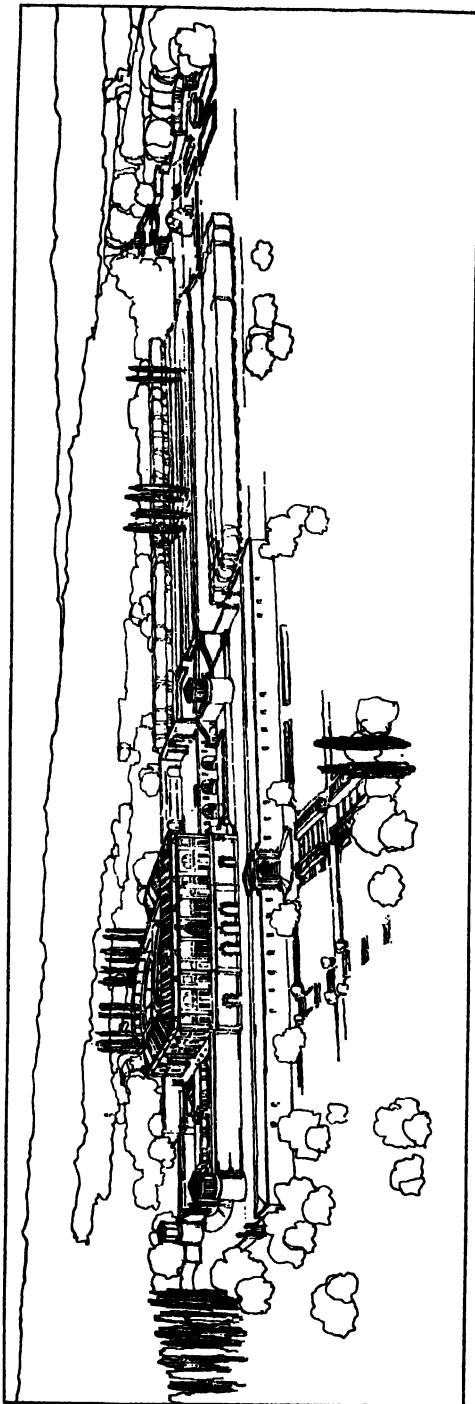


FIG. 1. Villa Madama, Rome

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Roman villa by the painter Raphael. Raphael was the greatest classical master of the composition of objects in space, but the remains are insufficient to show whether he was able to interpret the two dimensions of a canvas in terms of the three of landscape (fig. 1).

We must therefore transfer our garden study for a moment to the work of Raphael's master Perugino, in order fully to understand the objective of the sixteenth-century garden architects in their magnificent achievements in the hills surrounding the capital. Pietro Perugino painted the 'Christ Giving the Keys to St. Peter' in the Sistine Chapel in 1503. Behind the foreground figures is a great patterned space containing a domed building anchored to the earth by four porches penetrating the sky (pl. 10). On either side are classical triumphal arches, as it were guarding the centre building. There are no boundaries and the landscape appears to contain all the splendour of human aspiration of the time: namely, identity with a glorious past leading to identity with the revolving universe itself.

Although the slopes of the hill on which Frascati stands are carved with a remarkable series of gardens, the most important Roman garden is unquestionably the Villa d' Este at Tivoli. This was constructed for Cardinal Hippolito d' Este in 1550 by the architect Pirro Ligorio, out of a site adjoining the town, overlooking the Campagna, and containing great volumes of running water. It has all the drama and splendour and sense of assurance of the Papacy of the time. It is overwhelmingly impressive not only for its architecture, its disposition, and even its somewhat robust and crude detail, but also for the sound of its waters which, to the visitor walking about it, varies like the tones of a gigantic organ. The true greatness of the Villa d' Este, however, lies in the fact that it is an indirect translation of Perugino's picture into reality, causing a sense of fulfilment to follow that of wonder.

The development of the Perugino theme in painting lay in Raphael's 'The Betrothal', now in Milan; and in architecture in

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Palladio's *La Rotonda* at Vicenza, the last of the villas that we shall consider.

Finality and perfection in pure classical garden planning were reached in the curious and original Villa Lante at Bagnaia, about forty miles north of Rome. Begun a few years after the Villa d' Este by Vignola and Giulio Romano, Lante has been felt by many to be the most contemplative of all gardens. It contains the elements of the Perugino picture, the place of the domed building being taken by the parterre and Giovanni da Bologna's fountain, and that of the classical arches by square twin houses (pl. 11). The outer world is excluded on three sides, but on the fourth, and framed by the two houses, is a series of geometrical cascades and rivulets that appear to emerge from the natural woodlands to feed the central pools. It is one of the few Italian gardens in which man, by reason of the divided house, has voluntarily taken second place in the great scheme of things.

If the Villa Lante gardens endeavour to join heaven and earth in a way that is beyond the range of painting and even of architecture, Vignola's second garden masterpiece is unique in its sense of tactile values and movement. The Casino of the Farnese Palace at Caprarola was completed in 1587 for Cardinal Alexander Farnese, nephew of Pope Paul III. It can be truthfully described as tremendous fun—fun that is no less fun after four hundred years. The scale is heroic, and, characterized by the caryatid, it argues the most shrewd understanding of human nature and of the faculties with which the human being is endowed to enjoy his existence.

The spirit of the Roman Renaissance garden sprang from that of Imperial Rome and later passed into the great layouts of the reign of Louis XIV in France. It was only for a short time in its history that this kind of garden expressed anything other than materialism, for at all times it has been the symbol of organized power and imperialism.

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Florence

The Renaissance was heralded in the fourteenth century by Dante, Petrarch, and Boccaccio in the city of Florence. Although it is described as the rebirth of man after the Middle Ages, this is architecturally more true of Rome than of Florence. For the Florentine was always less monumental and more individual, and within a minor field we can follow the creation of universal man. Everything is smaller, more tender, and more varied. Even the landscape of the Arno valley is small compared with the Roman Campagna. The spirit of inquiry was abroad, and man's interest in himself as man the individual extended to surrounding nature and especially to flowers and plants.

Leonardo da Vinci in many ways epitomized the Florentine; although he was the most eminent scientist of his age, it would seem that he held science as subsidiary to and not master of his art as a painter. His portrait of Ginevra de' Benci conveys the idea of how close humanity in reality is to nature and therefore how the beauty of one is associated with that of the other; his 'Last Supper' gives direct meaning to geometry as the basis of order and tranquillity.

The Villa Medici at Fiesole was built by Michelozzo Michelozzi for Lorenzo dei Medici in 1458. It antedated the Villa d' Este, therefore, by nearly a century. Although some of the façades have been remodelled, and the lower parterre is modern, the original composition is complete (fig. 2). The terraces have been carved out of the hill overlooking Florence a few miles away, and it may be the earliest villa of its kind where the interior of the house has been projected externally not as an enclosed garden but as a great view terrace. It is formed of very simple geometric shapes and volumes, and these are so sympathetic to their position as to have become part of their environment. The Platonic Academy no doubt met at the villa, and the long simple lines of the terrace and the rhythm of the parts are the counterpart of their deliberations.

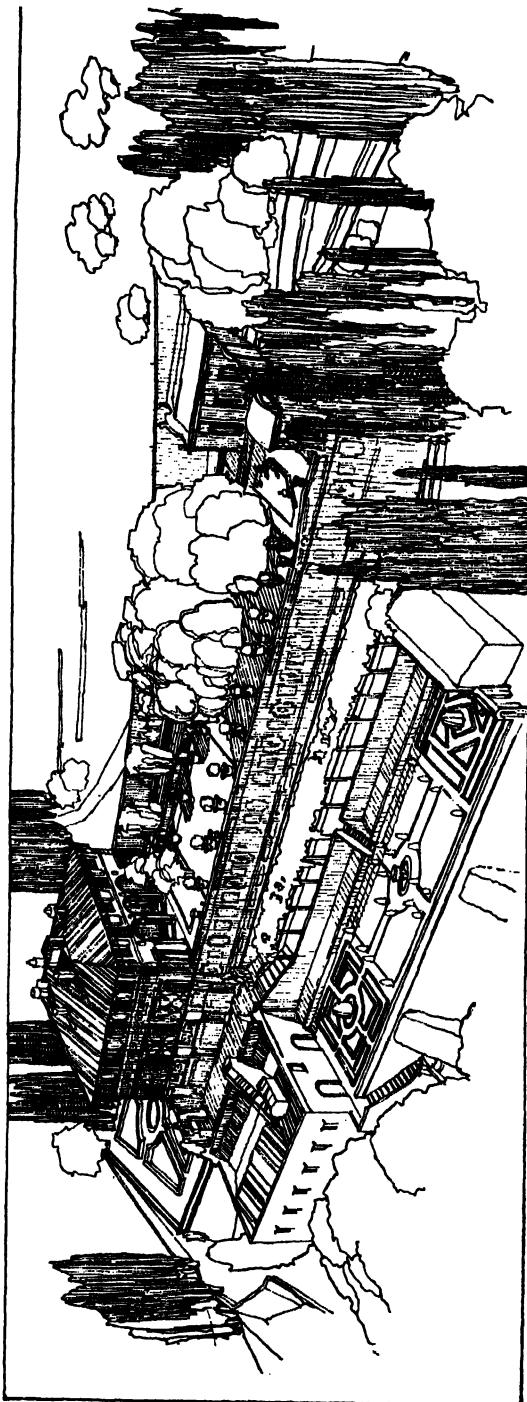


FIG. 2. Villa Medici, Fiesole

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Very different but equally attractive is the Villa Capponi at Arcetri in the suburbs of Florence (pl. 13). This was built about 1572 and is therefore contemporary with the Farnese Casino at Caprarola. Both are baroque, from that period of pronounced movement in architecture, but they are as different one from another as is Botticelli (pl. 12) from Michelangelo. The Villa Capponi is not monumental; it is domestic. Like the Villa Medici its layout is very simple, but it plays more upon contrast in open and closed spaces. There is a long grass terrace overlooking Florence, and then steps lead to one side down into two enclosed gardens. These rooms without a ceiling contain the usual carpet of box parterre, but, unlike the stately Roman gardens, they also contain freely growing flowers and plants which have crept in unasked. The tops of the walls are curving and more than ever reminiscent of Botticelli. One is not moved to awe, or surprise, or even contemplation, but to a sensuous enjoyment of the moment and pleasure in existence.

Very different again is the Villa Gamberaia (pls. 14, 15), which is probably still the most interesting garden existing where all the various aspects of the individual mind find their counterpart in physical environment. Built at Settignano in 1610, about forty years later than the Villa Capponi, it illustrates the maturity of Renaissance man; he now sees the full significance of the individual human mind. This sense of responsibility is brought out in contemporary portraiture, especially in the work of such painters as Bronzino, who, even more than Raphael, influenced the future study of man through this medium. Bronzino shows humanist man brought to the point where humanism can no longer be the primary aid in his journey through the ages. It is as though for the first time he realizes the significance of two factors momentous for the future of the world: that the individual human mind has greater potential power than the whole of the physical universe; and that this formidable force lies dormant not merely in the leaders but in every human being, great or small.

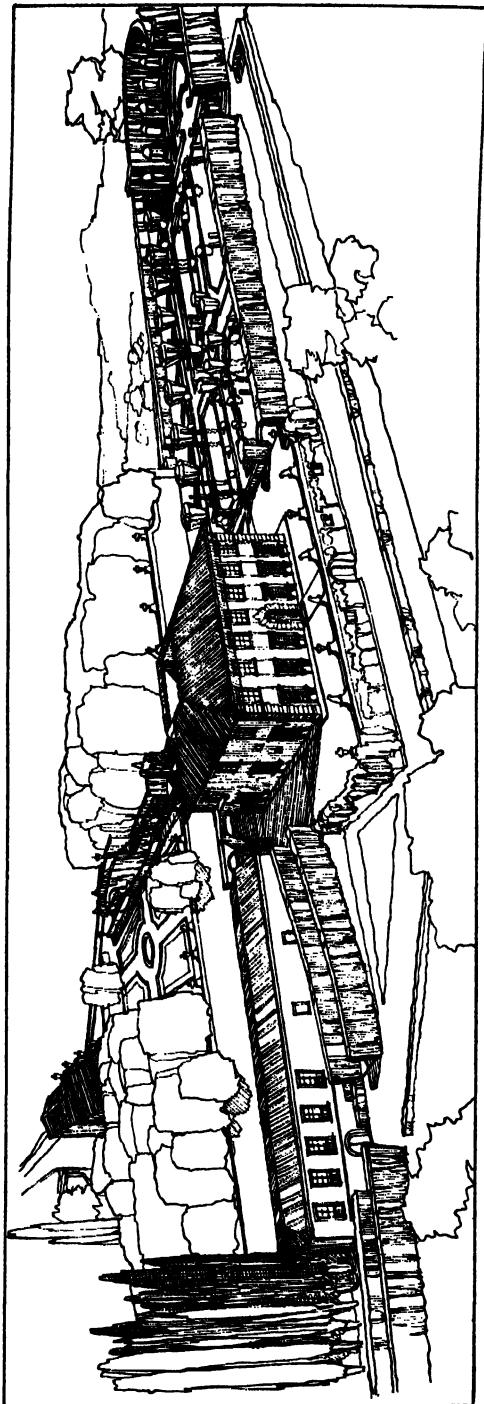


FIG. 3. Villa Gamberaia, Settignano

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The Villa Gamberaia is set somewhat like the Villa Medici upon the hillside overlooking Florence and the Arno valley (fig. 3). There were indeed countless villas lying on the olive-clad slopes facing in upon the mother city, where Brunelleschi's dome rose splendidly among the towers and spires and closely clustered roofs. The site was awkward, but the components are so arranged that the odd boundary might have been drawn after the design was made, which is not the case. There are innumerable contrasting elements in the garden, and these are disposed round a long and stately alley on the one hand, and a jocular grotto garden on the other. Two *ilex boschi* contrast with the gaieties of the formal garden. The elegant lemon garden has its appropriate place. The dark depths of the lofty cypress grove contrast with the openings that look out upon the assured and pleasant outer world.

Venice

This same comfortable world was nowhere so much in evidence as in the third great centre of the Renaissance, the Republic of Venice. The roots of Venice were not in antiquity like Rome, nor in its environment, like Florence, although its water environment was in fact unique and profoundly affected its architectural forms and sense of colour. Venice lay on the main trade route between West and East, and its civilization drew its nourishment not only from Italy itself, but from as far north as the Netherlands, and as far east as Persia. It was therefore cosmopolitan, and at an early age was peculiarly sensitive to world movements.

As a people the Venetians were pleasure-loving and enjoyed themselves as citizens in the aggregate rather than as individuals. They were an oligarchy rather than a family or a papal state, and over centuries of internal peace were able to develop a way of life that is the basis of the modern world. They were keenly interested in the mainland, and at least three painters heralded an outlook on landscape far in advance of any in the rest of Italy.

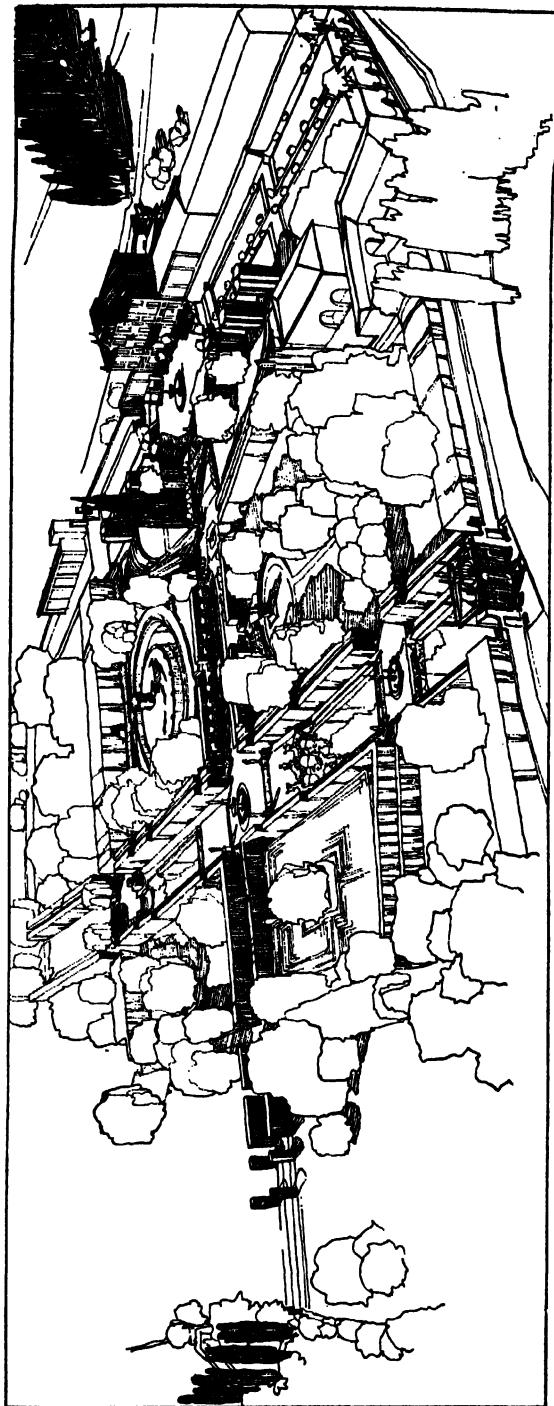


FIG. 4. Villa Dona dalle Rose, Valanzio

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The first is Giovanni Bellini, who placed the geometry of the new world within the medieval conception of landscape; the second is Giorgione, whose landscape backgrounds are the first to suggest that organization of space which culminated in the eighteenth-century English park. Bellini's design 'The Earthly Paradise' foreshadows the Villa Dona dalle Rose at Valzanzibio, and Giorgione's background to the Castelfranco Madonna (pl. 18), the setting of La Rotonda. The third painter, Tintoretto (pl. 17), is analysed in the last of these studies.

The Villa Dona dalle Rose (fig. 4) lies in the Evganian hills about twelve miles south-west of Padua. It is said that the gardens were made about 1690 by Antonio Barbarigo, Doge of Venice, nineteen years before the house was built and came to be inhabited. The general plan is a simple rectangle, and is somewhat like a paradise carpet that has been laid gently across the valley within an amphitheatre of hills, being attached at either side by avenues. The plan has clearly been influenced by the Villa d' Este at Tivoli, but it is as distinct from it as Venice was from Rome. Within its apparently unsophisticated pattern are many of the secrets of optics and perspective that Tintoretto had explored and exploited in the previous century. There is suggested indeed a hint of that disintegration of pure form which is so much the preoccupation of the modern mind. The personality and power of the owner do not permeate the design; it is a friendly garden in which large crowds can roam and not affect the domestic nature of the landscape as a whole. This humane outlook is possibly the nearest approach to the equivalent of the formal English garden of clipped hedges and enclosed spaces. Although the gaiety of its sculpture and ornaments is not easily to be appreciated by Englishmen, it is the most agreeable garden in Italy, and one where may be found an echo of the simple streets and squares that constitute an English city of the Renaissance.

The attraction for the Englishman to this north-east corner of Italy has been unending. It has been a veritable quarry for ideas.

The Italian Garden of the Renaissance

He may have been on the grand tour and admired to a greater degree the works of Florence and Rome, but always he seems to have come back to Venice and the mainland. Venice had two appeals: it was cosmopolitan, and its art reflected the world; and associated with it was one of the most logical and original architectural philosophers of all time, Andrea Palladio.

The Villa La Rotonda stands on the hills outside Vicenza, a hundred and fifty years older than the Villa Dona dalle Rose, and marks a new era (pl. 19). Hitherto the garden had projected the interior of the house into the natural surroundings. Palladio, who was immersed in antiquity, deliberately set out to design the ideal building which should achieve classical finality. This resulted in a self-contained four-square plan, which, far from needing a geometrical extension, relied upon a romantic environment to emphasize its sense of stability and aloofness. It was Palladio's conception of order, and its ancestor was the Greek temple set in a wild landscape. From this conception sprang the idea of the English Palladian house and park of the eighteenth century, whence can be traced the development of English garden design to the present day.

II

One Hundred and Fifty Years of English Landscape

I

EIGHTEEN HUNDRED AND FOUR was the year before Trafalgar, when England secured for herself the freedom of the seas. Eleven years later Waterloo was to provide a hundred years of peace and prosperity, a period during which the arts of civilization were to be developed freely and in association with commercial power. With Napoleon's armies encamped ominously at Boulogne, it would seem an odd moment to found a society that is almost wholly known to the world at large as being concerned with the peaceful and enjoyable art of gardening: The Royal Horticultural Society. But in the first place the Society was founded to encourage and develop the growth of fruit trees; and in the second, country life in England for the well-to-do went on very much undisturbed by the Napolconic wars. It was a moment of great significance for the philosophy that gives rise to the arts, for the eighteenth century had been the culmination of the age of reason. But reason had produced the machine which in turn was the cause of the Industrial Revolution, and by 1804 the single stream of creative power that had produced such magnificent works in the previous century became divided into two streams that have never wholly rejoined. The one was preoccupied with the intellectual, and in particular with all the sciences; the other was concerned with the romantic or poetic, possibly expressed most forcibly in this

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country by William Blake. It was the age when Wordsworth was extolling the virtues of nature as appreciated by the senses, and when the imagination would read into nature anything it wished. It was, particularly, the age of the great English landscape painters.

In one way it might have been better for the pure arts of garden design in England had there been no decisive Trafalgar, and no absolute freedom of the seas. There can be no doubt that the logical development of garden design was thoroughly unhinged by the import of a world's palette of plants, and by the use of the greenhouse that made their growth practicable even if climate were against them. But to understand fully the problems of design that existed during the beginning of the Society's existence it is necessary to go back in history.

The course of English garden history ran smoothly enough from medieval times to the beginning of the eighteenth century. The cloister and the castle garden were open-air rooms, the box- or stone-edged flower bed holding its limited range of flowers in a firm architectural setting. As the land became safer, so the walls were thrown down and the garden extended into its environment; sometimes, as at Hatfield, it was simply an extension or echo of each façade. As ideas filtered from Italy, so the garden became more formal and shapely. The influence of Holland with its emphasis on domesticity was friendly to the native instinct, but in the early eighteenth century the greatest power in the western hemisphere was France. This power was echoed in the great gardens and avenues of Le Nôtre, and for a short while the English aristocracy created avenues on their estates that went beyond native reason. A revolution then took place in English landscape which was no less dramatic in its way than the social revolution in France at the end of the century. The change in outlook upon nature that caused the rise of the English School of Landscape Gardening was no momentary child of fashion. It was a revolution which reversed a whole previous philosophy of western man that had been based on that

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of the ancients. The Roman had set out to conquer the resources of nature and to impose intellectual man upon his environment as surely as the avenues of Badminton imposed the house upon its surroundings. The revolution of the eighteenth century was to satisfy the urge of biological man, and was the father of all the return-to-nature movements from that time to the present day. There is much in common between this art and that of the ancient Chinese. It is interesting to read in Gertrude Jekyll, for instance, how she endeavours to create a woodland scene based upon the natural laws, interest being given by accident; for it was this also that gave the essential contrast to the smoothly working laws in a Chinese garden.

Although the arts of the English School of Landscape Gardening were based on the painters, and the essence was to allow the imagination to wander at will, the art as practised by Capability Brown was extraordinarily simple. He first idealized the existing country landscape of the time into the groups of trees and undulating grassland that is the particular glory of England. Nothing indicating man's labours (such as a hedgerow) or reasonable means of sustenance (such as a cow) was to be visible; but the landscape could be enhanced by ruins, temples, church spires, and browsing deer because these created lofty sentiments. No boundaries were to be seen. So with these simple principles, Capability Brown, who was a genuine artist, could visit and decide upon the development of landscape in a shortness of time that leaves breathless a modern age which has every transport facility at its disposal. As the century developed and drew to a close, the landscape world came to be dominated by Humphrey Repton, who brought to a climax the design of the estate having a great Palladian house set in its English park, providing possibly the primary contribution to the visual arts of the world made by this country.

The three adventures in the layout and ownership of gardens by The Royal Horticultural Society itself approximate to the early part of each half-century of its existence. There is first the simple, scientifically planned orchard garden at Chiswick (1824); then comes the astonishing architectural adventure in Kensington in 1862; and finally the acceptance and opening of Wisley in 1904, which may properly be said to be a cross-section of all gardens and gardening taking place contemporaneously in the country. The Chiswick garden is perhaps symbolic of the fact that below the fluctuating surface of the fashionable and well-to-do gardens, the kitchen garden and the ordinary cottage garden continued without much change. Cobbett, who was trained as a gardener, paints a realistic and beautiful picture of rural England not only in his *Rural Rides*, but in less known works such as *The English Gardener*, first published in 1827. The cottage garden has been a consistent characteristic of England. It is significant that when England finally became a land primarily of town and slum dwellers, the love of nature was only temporarily suppressed, and in due course created the garden suburb and the New Towns, themselves based on the individual home and garden. With the knowledge of this secure and common-sense background we can explore the tumultuous course that landscape design as an art has taken from 1804 to the present day.

Up to Trafalgar and Waterloo there is little sign of confusion. It is true that architecture had already become divided within itself with the advent of the Gothic revival, but Nash and Repton were sweeping on in a combination of classical architect and romantic landscape architect in a way unequalled before or since. Kew had been opened in the previous century for the scientific study of trees, and in fact in 1810 contained 11,000 species; but the import of plants generally from abroad, while on the increase, had been absorbed in the same way that foreign architectural styles had always been absorbed. Then came the full

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impact of flowers from all parts of the world, and it was as though the increasingly wealthy country had consumed an artistic feast that it was unable to digest. People called for more and more flowers, and to lengthen the period of colour as well as to harbour tender and exotic plants, the greenhouse became an essential for every garden. Bedding out as an element of garden design was paramount until about 1880.

One likes to think mischievously of Humphrey Repton endeavouring to grapple with this urge for flowers, for they formed little or no part in his scheme of things. It is interesting to note his use of tubs and great baskets, for the intention is to suggest a transitory vase which is not part of the basic landscape scene; we find a similar idea today in the widespread use of flowers in circular tubs which emanated from Stockholm and is now copied throughout Europe. A very real problem in a broad and noble landscape is how to provide a setting for the individual flower so that a relationship in scale is preserved; the painter has no such difficulty with his fixed foreground, middle, and distance (pl. 25). The landscape architect Loudon attempted to reconcile the huge palette of flowers with existing fashions in taste, but he would appear to have had more influence as a writer than as a practitioner. The characteristic of the age was the chopping up of grass into small beds of doubtful shape, and the planting of these in a way similar to that of a child with sudden access to a box of paints.

With the increase in wealth of the middle class after the Napoleonic wars, the unprecedented demand for plants of all kinds justified the spirit of adventure that sent explorers all over the world. The sending out of collectors which began about 1818 was in fact the greatest work of The Royal Horticultural Society, and these were in addition to those sent by private firms such as Veitch. Nor was it flowers and shrubs alone that were introduced, for soon the conifers of North America were discovered and no garden was complete without them. A pinetum was established at Kew in 1843; the first 'Monkey Puzzle' was described in 1847 as a tree of 'singular beauty'.

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It is impossible at this period to concede at the most more than a charming confusion in landscape tendencies, but about the time when Robert Fortune, the most successful of all collectors, was opening up China in 1842, the previously submerged architectural mind once more began to take charge in no uncertain manner. The dominant professional figures here are Sir Joseph Paxton and Sir Charles Barry, but by the middle of the century the real influence was probably that of the Prince Consort. The first half-centenary of the Society fell three years after the great Exhibition and it was under the spell of this that the Society embarked upon its oddest venture, the gardens at Kensington.

III 1854-1904

Paxton had a genial personality, a genius for the idea of structural science, and strong leanings towards the classical architecture with which he was so closely associated as head gardener at Chatsworth and which he never properly understood. He designed the Palm House in 1835, and this led to the Crystal Palace of 1851; a single and memorable idea that well summarized the majestic unity of the nation. It was the age of prodigious wealth and expression, and in the words of G. M. Trevelyan 'the world is not likely to see so high a culture again for many centuries'. Such a civilization called for a more grandiose landscape than historic England could provide, and this was found in the architecture and gardens of the high Italian Renaissance. But the English designers were in their own estimation to surpass the Italians in so far that the formal parterre gardens would not contain the dull-coloured stones of Italy or France, but would sparkle with brilliant colour now available through massed and bedded-out flowers. The gardens at Sydenham were like this and were in exact contrast to the Palace itself; for they were as unhappy an example of an engineer's excursion into the humanities as the building itself was successful as an example of the working of the structural laws of nature. The culmination of the

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architectural garden came about under Barry between 1840 and 1860 (pl. 28a), and it was this fashion, so far removed from the objectives of The Royal Horticultural Society, that gave rise to the ill-fated Kensington garden.

The Prince Consort was undoubtedly architecturally minded. He had been President of the 1851 Exhibition, and was President of the Society; and there is every indication that he alone was responsible for this classic work. Nothing was to be spared to make it an example to the world. Sydney Smirke, R.A., was appointed architect, Fowke the engineer, and W. A. Nesfield, who had worked with Barry, the landscape artist. The gardens with their colonnades, fountains, and architecture were opened in 1862 at a cost of over £50,000, and made little or no contribution to the study of horticulture; and according to photography, very little towards architecture. But it is a clear indication of the formidable power of fashion at that time to provide an art almost diametrically opposed to the natural indigenous instinct. Nor did the fashion die easily, for works of garden art from Italy were imported on a truly gigantic scale until the end of the century and even later. The most remarkable of all such gardens furnished in this way, in or out of history or anywhere else, are probably those at Hever Castle, in Kent.

It is one of the saddest attributes of the art of landscape that it is transitory. The history of the period is largely gathered from contemporary writing, from drawings, and later from photography. We are led to imagine a rural England of the middle of the nineteenth century scattered with villas of all styles of architecture, and set in gardens of all kinds of planting; the most distant species were available to the modest purse; and always there would be the dark conifer as a visitor from a foreign land. In 1883, just as there had been a revolt against the implications of the avenues a hundred and fifty years earlier, so a new revolt against foreign species of another kind was heralded by the publication of *The English Flower Garden*, by William Robinson. It was a kind of double revolt—to throw off the spurious

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contemporary architectural garden, and to bring back the indigenous planting belonging to the country. It opposed the heroic in art and was an almost pure return to nature (pl. 28b). For a time garden interest was focused upon the struggle between Robinson and Sir Reginald Blomfield, who replied to the wild garden in *The Formal Garden in England*, published in 1892. In retrospect we see that both protagonists stood for the native arts, and in due course, at Gravetye Manor, it was shown how the geometrical and biological arts can come to form a happy marriage; Gravetye was in this respect perhaps the first of the modern gardens (pl. 29a). Under Blomfield's influence, on the other hand, gardens were laid out so skilfully in the style of the early formal English garden that they were often mistaken for the original.

Contemporary with Robinson was Gertrude Jekyll, who in her first book set out to make order out of the disordered colour palette of flowers, and to place aesthetic design above horticulture as the objective of a garden. To many of us, however, it is as the collaborator with Sir Edwin Lutyens that she made her greatest contribution to the art of landscape. Since the turn of the century saw the beginning of this unique partnership, we may usher in the third half-century of the Society by a description of their works and significance.

IV 1904-1954

The best work of Lutyens was done between about 1896 and 1913, but he appears to summarize all the emotions and feelings that were abroad in England between 1880 and 1930. He dominated an era as only Christopher Wren had done before. His genius really lay in house, garden, and environment; and in this he stands so far above his able contemporaries that we must explore deeply to understand why it was that his works were not just a box of tricks that rejuvenated any historic style he wished. Nor does his fame rest upon the fact that his buildings were full of fun in contrast to so much dreary Georgian revival

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of the period. He was above all an artist, with complete mastery of his trade to express his art; it was perhaps his good fortune to live in an age in which the acceptable idiom of architecture was anything in England from Tudor to Queen Anne, for this suited his peculiar powers of invention and versatility. We cannot imagine him dealing with mass production. But we must look past this idiom of architecture to find the true Lutyens. His buildings and gardens emerged from the landscape as naturally as did the planting of Gertrude Jekyll (pl. 29b); the word 'naturally' being used to imply submission primarily to the biological laws of nature, rather than to the mathematical laws of the universe. The garden was certainly an extension of the geometry of the house, but just as the external shape of the house itself was suggested by the rooms, so was that of the garden by its compartments (pl. 30): a totally different idea from the box-like Renaissance house and garden. Every part of a Lutyens composition is based on an appreciation of the basic animal senses, of smell and touch as well as sight. It would be beyond the scope of this study to analyse the way in which his grouping was inspired by the natural shaping of the ground, his stimulating silhouette, his contrast of open and closed spaces, his genius for material both in colour and textures, and all the other arts upon which he played as upon the notes of a piano. But having once heard him deplore the loss of the third dimension in modern architecture, I cannot do better than suggest that he was an architect who appreciated that man has two eyes, and not one eye; instinctively he designed his forms so that the eyes judged the shape stereoscopically, and not solely by shadow or perspective. His work is perceived as sculpture, just as much as a fluted Doric column or the bark-indented trunk of an ash tree. We can and do forgive him the fact that his architecture was too stamped with his own personality to make the union with nature as satisfactory as at Gravetye.

Wisley was presented to The Royal Horticultural Society in 1904, and gives a clear picture of garden tendencies during the

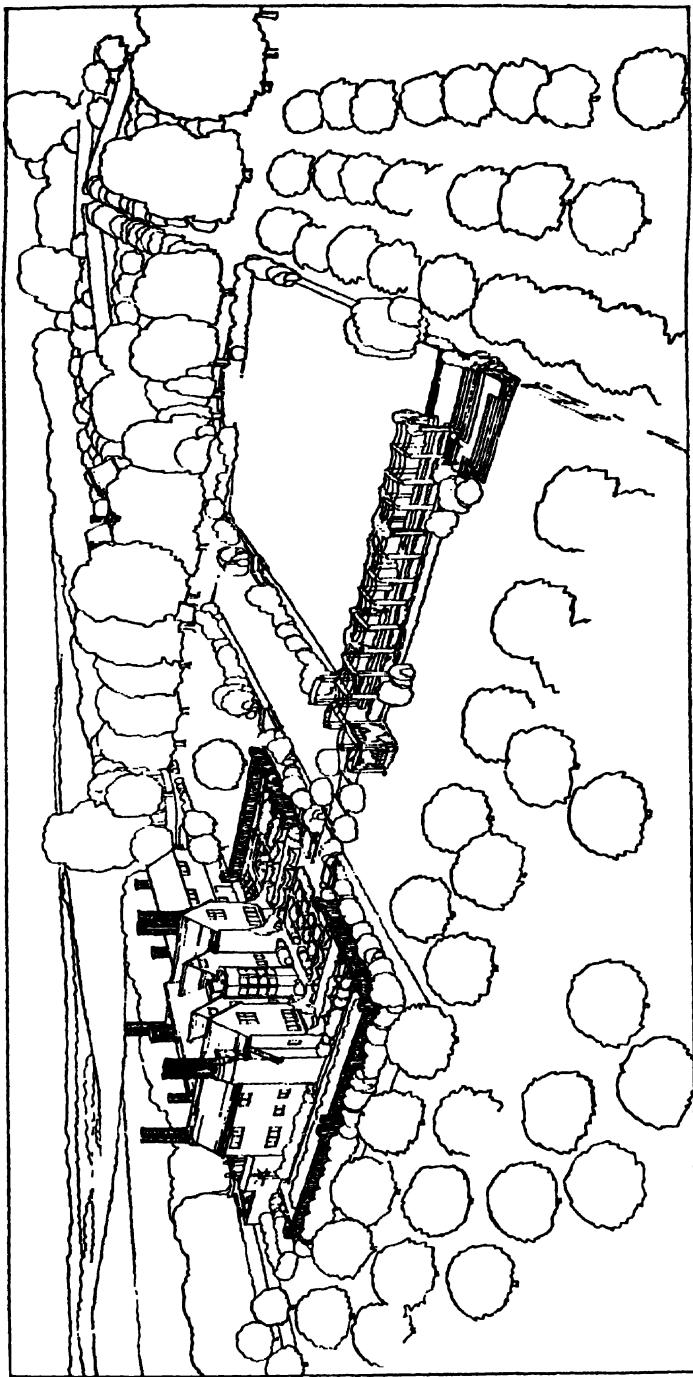


FIG. 5. Little Thalcham, Sussex, by Sir Edwin Lutyens

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past fifty years. It is of interest that while architecture has been through such vicissitudes, the outlook towards nature appears to have changed very little. Here at Wisley is seen the influence of Robinson and Jekyll, and in addition of such men as Reginald Farrer, who at the end of the last century popularized the alpine plant and consequently the rock garden. Here, too, as a further sequence in the return-to-nature movement, we see a development of the study of heath and heathers, a modern landscape exploration into another aspect of the world around us. But landscape is essentially a partnership between the geometric and biological arts, and the revolution in the former that began after World War I unsettled the established relationship of the previous forty years. Up to that date the handicrafts had resisted the machine, but from then onwards the mechanical and mass production of building materials began to make itself felt. The influences that bore down upon English landscape between the wars were perhaps greater than at any period in history, for they were concerned with an internal revolution where in the past the influence had been from outside. It is not the least significant element of this period that the Institute of Landscape Architects was founded in 1929, and that a professional course in landscape was established at Reading University about the same time, to be followed in 1948 by courses at London and Durham Universities, and in 1954 at Leeds University. The half-century has seen the initiative of good landscape begin to pass from the unorganized gifted layman to the organized professional, but with what result it is as yet too early to foresee.

V

The most striking factor in the contemporary scene is the infinite variety of subjects of landscape compared with fifty years ago. There are more public parks, gardens, and playing fields. There is the landscape of industry, a wholly new art. There are national parks, nature reserves, softwood afforesta-

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tion, water conservation, massive roadways tearing their way across the countryside. It is elements such as these in a now over-populated but landscape-conscious country that will absorb more and more professionals. Although high cost of labour and high taxation preclude the making of large gardens, and although a new landscape art of shrinking an existing garden has arisen, the number of gardens proportionate to the population is probably higher than at any time. But they are small, and in contrast to the traditional cottage garden, the knowledge that goes to their making is largely obtained through a gardening press that has developed astonishingly since Loudon first issued his journal. The popularity of Chelsea Flower Show is itself a sign of the times. The middle-sized garden survives and continues to be made mainly because of the mechanical invention that began with the mowing machine at the beginning of the last century. But there is no doubt that the present trend against formal gardens with clipped hedges is secretly stimulated by the problem of maintenance.

The first impact of factory methods of building upon the modern architect seems to have produced the same result as did the impact of flowers upon the gardener a hundred years previously; he was overwhelmed. He lost all that history had so carefully cherished and in its place built in a style called international that was at first as de-humanized as bedding-out had been de-naturalized. But as the art matures we begin to see taking place a reconciliation between opposing laws—those that lie behind the making of buildings, and those that govern the growth of plants; uneasy partners at all times but increasingly so as the world gets older. We see something of this maturity when we turn the pages of so many modern books on garden design, from which that curse of gardens, sentimentality, has been eliminated. The objective would seem to be to accept nature as an equal partner with the works of man, but to arrange her in such a way that we can enter her world and enjoy our origins (as we do in Sir George Sitwell's *Essay on Gardens*), without trampling her clumsily (pl. 31).

III

The Search for a Paradise Garden

ISRAEL recently placed before the Council of the International Federation of Landscape Architects the proposal that there should be an international garden on Mount Carmel. It is a good starting-point for deliberation on world affairs, for it leads on to a question of the most startling and challenging nature. Is it now possible to create a garden of universal appeal, a paradise not for one way of life, but for all ways of life that exist upon this complex globe? Is it possible to weave the different strands of mankind into one Paradise garden carpet after the manner of the ancient Persians?

Let us first make a study of history, watch how this merges into the modern world, and then examine the contemporary scene.

I

Since this idea emanated from Israel, and since the Garden of Eden is at least metaphorically the first garden, it is proper that we should begin here. But I fear that this garden would be of little help in our explorations; we know now that nature left to herself becomes a jungle, and that it is one of the purposes of our art to compose and order our environment to our particular requirements. Nevertheless, if we pass swiftly to the vast woodland scenery of Central Africa, we shall see natives sitting basking in the sun, themselves part of their natural environment.

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Unlike the European, the working African does not wish a bonus payment in cash; he prefers it in time, or rather in time off, in order that he may just sit in Paradise. How wise are those natives, and how odd must seem to them the rest of the world who cannot sit still, but must press on restlessly.

The flight back from Central Africa to the Mediterranean, if one follows the Nile from Khartoum to Alexandria, is probably the most prodigious in its comprehension of landscape of any comparable distance in the world. Far below lies the silver streak of the river with its rich banks of variegated green patterns, sometimes wide, sometimes so narrow as almost to disappear; and on either side the hot arid desert disappearing as far as the eye can see (and this may be more than a hundred miles). This thin strip is the cradle of western civilization: its architecture is magnificent; its man-made landscape, especially of Thebes and Luxor, probably the grandest in the world, ancient or modern; its houses and gardens must have been lovely. But we will not pause here to gather a contribution to our universal garden, for the whole of the architecture was based on suppression rather than enlightenment of the individual spirit, and it is with this only that we are concerned.

II

The three great forces in history upon which the gardens and indeed the landscape of almost the whole world are based are the Chinese, the Western Asian, and the ancient Greek.

The first of these, the Chinese, sprang from its own land, spread to Japan, and began to influence Europe seriously from the middle of the eighteenth century. It was an art based upon a philosophy that man was a part of organic nature and just like nature did not change after having reached a 'climax'. It was undoubtedly extremely restful and contented. The only real excitements were the grotesque in nature, such as storms, twisted trees, waterfalls, for these disturbed the quiet flow of life. The

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senses both here and in the tea-houses of Japan were brought to a state of sensitivity unknown to the western world (pls. 2, 3). It is said, for instance, that trees were planted in order that the sound of the breezes through the leaves would be to the ear like music. My universal garden would remind us also that we are always a part of nature and would tune us to that delicate response to nature which has almost passed from our experience.

III

If the Chinese garden developed through centuries of reflection and meditation, the Persian garden of Western Asia had a shorter and stormier life. The two great civilizations of antiquity had both reached their summit unknown to each other at approximately the same time in the fifth century B.C., the eastern in China, and the western in Greece. For centuries thereafter there was an area stretching from India to the Mediterranean which came first under one influence and then under the other.

This area, constantly upon the boil within itself, occasionally produced great philosophy and great art. For a short while, for instance, the Arabs astonished the world and carried their Persian arts along the Mediterranean and across Spain to the Pyrenees. Spain is much enriched by having developed from two civilizations.

Similarly, the maritime city of Venice became, and remains today, the most interesting city of its kind in existence, cross-fertilizing on the one hand the garden arts of the Netherlands with those of Persia, and influencing on the other such purely Italian Renaissance painters as Giovanni Bellini. 'The Earthly Paradise' contains something of the arts of China, Persia, and Italy; that is to say, of most civilized countries (pl. 16).

The Persian conceived his garden as a small and fertile oasis set in a huge barren landscape. It was a kind of sanctuary, and its name, Paradise (a walled enclosure), soon came to acquire a wider association. Its design was simple, geometric, and based

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on the irrigation water channels of the desert. It inspired the design of the Paradise carpet, a reminder to us of the variety and wealth of detail that can be woven into a simple background (pl. 1). It is this basic simplicity that appeals to us as much today as it has in the past. What began as no more than an engineer's conception of a functional landscape, became in due course a work of art, and was endowed for very obvious reasons with an almost sacred character. The whole garden, including fruit trees and cypresses, was symbolic of life and death. It is certainly the clearest example in history of the progress of landscape from one of pure utility to one within the realms of metaphysics.

IV

If the Persian garden was somewhat limited in variety and generally passive and gentle, the garden arts springing from ancient Greece were very different. Western man set himself to adventure upon and conquer the resources of nature. He could never become static and there was no prophesying what he might not achieve nor when he might not destroy himself.

Not long ago my plane from Africa to England circled the Acropolis before leaving Athens for Rome. Even in its ruins the Parthenon is profoundly moving, and there is something both noble and tragic in the thought that this tiny beginning generated such tremendous forces. Set in the wild scenery of Greece, these tranquil temples seem to me to have attempted to draw down and establish upon earth the eternal rhythms of the heavens (pl. 6). To the Greek, man was something greater than a vegetable and must rise above his state; he found satisfaction not in the untidy environment upon the surface of the earth, but rather in the noble geometry and order of the universe.

Except only for groves of trees, the Greek was not interested in gardens, and the fountain source of all our classical garden art is Italy. The Italian of the Renaissance was the first individual in the world to realize that he and all like him had a mind and

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will of his own. He envisaged architecture as a projection of his personality, and his garden as a projection of his architecture. This accounts for the richness of variety, and if I were asked to study and report on the human mind through its response to geometry, the medium I should choose would be the Italian garden. Within the formal shapes that play so agreeably upon the mind, are all the minor incidents of architecture, which are informed solely by the human figure.

When the Italian garden spread to Europe, it changed its character. At Versailles it became the expression of a monarch who wished to reflect not only his own aspirations, but those of a whole country. The great gardens of Le Nôtre have been a superb inspiration of town planning, there being no grander example than L'Enfant's plan for Washington.

In Austria the arts flowered for the brief period of rejoicing and relief following the raising of the siege by the Turks. The Baroque gardens of Austria are a climax of man's warmth of feeling and his splendid stature in the great scheme of things. Technically at least the Belvedere would in my opinion rank for a place in the first twelve classic gardens of the world. I should place Melk monastery in the first six of the romantic landscapes of the world. This is no small contribution to our study of history, and the fame of Austrian gardens is all the more enduring because of those paintings by Bellotto which are the finest of their kind. Observe particularly in that of the Liechtenstein Palace how the emotion of the human figure transmits itself to the vase and thence to the buildings. Here is the spirit of Baroque.

I have mentioned only a few of the countries concerned in the classic gardens, but when we conceive of the vast number, large and small, which have been made and enjoyed over the centuries in Europe and beyond the confines of Europe, and the peace and tranquillity they have brought to countless millions, then we can understand how it is that the Renaissance garden retains its charm although its significance may have changed.

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For every such garden is still a projection of that aspiring western mind, and carries with it that urge for ordering the affairs of nature which at last is beginning to fill us with alarm. Nevertheless, our universal garden shall contain a measure of the classic western garden, properly proportioned to the whole, for the individual mind of man, whose power is terrifying, is yet the most precious thing in the world.

V

I have mentioned the three great sources of our landscape art and have suggested the three philosophies upon which they were based. The stupendous development of the garden arts of classical civilization received a check in the eighteenth century, which in a moment of time built up its own opposition. The English School of Landscape Gardening suddenly repelled the classical invader from the shores of Britain, announcing an outlook upon nature diametrically opposed to the classical world but having much in common with the landscape art of the Chinese. The English house, itself strictly geometrical and based upon the Palladian mansions of the Venetian mainland, came to be set in an ideal natural landscape where grouping and composition were based upon the work of the landscape painters. We in England like to regard the English country estate of the eighteenth century as perhaps the greatest contribution we have made to the history of art. It was not merely an essay in the landscape sense in the organization of space; it symbolized a way of life that seemed to maintain a balance between the intellectual and the biological. The framework was a social pyramid whose broad base was set firmly upon nature herself and from whose lessening and rising strata the cultured aristocrat emerged quite logically at the summit. The English park was the aristocrat's acceptance of nature as an equal (provided she were properly groomed), and it is therefore of profound significance in the development of western civilization.

This romanticism quickly spread throughout the world, and is the father of the multitudinous 'return to nature' movements that are today with us on all sides. The work of Le Corbusier, Neutra, and other leaders of twentieth-century architecture has been based on exact contrast between geometrical buildings and orderly disordered landscapes. The relationship between modern architecture and plant form, a direct descendant also of this landscape revolution, is found most beautifully in Scandinavia and Switzerland; and in those areas of Mexico and South America, where luxuriant foliage flows literally through the buildings. Latin America is indeed giving us some of the most exciting landscape in the contemporary world. Even architectural features themselves may respond to the organic curves of nature where Renaissance curves echoing those of man would not be tolerated.

Undoubtedly this movement is an appeal against the order of the Greeks, which eventually led to the creation of a Frankenstein monster in the tyranny of the machine. It is the call of biology, the urge to identify ourselves with the origins of nature. In this respect it is a form of escapism, at times a sentimentalism, and not, as in China, a true echo of the whole of the human spirit. Nevertheless, as we shall see, it has given rise to at least one metaphysical landscape as profound as any in history, and may be the proper landscape of a future disciplined universe.

VI

We have surveyed history and seen its significance to the world today. We come now to the achievements of the modern age.

These achievements centre mainly on industry and housing and in this sense are a symbol of the emancipation of the individual. They are certainly a reaction from the squalor of the industrial revolution of the nineteenth century. England led the field in the spoliation of landscape by the extractive industries, which worked out one area and passed on to another. The Black

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Country of the Midlands is a sight which none who has been there will ever forget; it is as though some monstrous animal from another world had dragged at the green skin of England. And left behind in the wake of this monster were hundreds of thousands of human beings living in conditions that nature herself would not tolerate. This roused the social conscience of the nation, and the twentieth century has shown a remarkable raising of the standard of housing, both urban and rural; and—of even more concern to us—has created the urge for a gracious landscape in all works of man.

The idea of a consciously designed industrial landscape is spreading swiftly throughout the world, and is surely a modern phenomenon. The quarrying of marble could be seen from Athens; and certainly there was no aesthetic landscape architect for the great water and windmill schemes which so enrich the scenery the world over. Even waste did not seem so ugly before the nineteenth century.

It is possible that ugliness in the works of man, whether architectural or landscape, did not arise until there came a conflict between the use of the surface of the earth, and the use of what lay beneath. It is possible that there is no such thing as waste; it is merely a material for which man has not yet found a use. It has taken hundreds of thousands of years for man to learn the properties of vegetation; it may take longer to understand the materials we are drawing forth from below us.

The immediate urge in England towards landscape design is due on the one hand to the shrinking of land available per head of population, and on the other to the fact that every individual is demanding a high standard of seemliness both in home, at work, and at play. Without the planner and landscape architect there must be inevitable chaos. I imagine this urge is becoming universal. A great opportunity lies before this new profession of Landscape Architecture, created primarily by these very circumstances; landscapes, for example, designed by landscape architects on a scale vaster than anything in history! Three

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examples of these designed landscapes, each on a scale unknown in history, are: the hydro-electric works of the Tennessee Valley Authority in America; the motor roads of America and Germany; and the land reclamation schemes of Holland. If we add to this such plans as that of Sir Patrick Abercrombie for the County of London, we find ourselves within measurable distance of conceiving our whole country as one three-dimensional landscape; and thence the globe as one landscape unit.

It may be felt that this would be the goal of the universal garden, but this is not so because there would be one vital difference between this and our three landscapes of history. The modern world tends to regard technique in design as an end in itself, whereas in history it is used only to convey an idea.

VII

But there are exceptions, and these exceptions indicate the possibilities in an age that otherwise seems so materialistic. I will describe three examples of what may be called metaphysical landscapes of the modern world. Within the first there seems to be the spirit of China; in the second, of Persia; and in the third, of Greece.

I will introduce these by referring to what is perhaps the grandest natural landscape of this or any age. This is the Golden Gate Bridge at San Francisco; seen against the rolling hills across the water, with the sea mist creeping in from the Pacific, it is profoundly moving and inspiring. But let me emphasize this: it is not a work of art, such as could only be conceived by man. It is a work of nature, for the laws that created it have always existed in the universe, and man is just another creature like the spider, who has seized upon and made use of these laws. It is no more beautiful than a spider's web glistening in the light of a September morning. It is simply larger. No, our contribution towards the universal garden must rise above the animal state.

The first of my modern metaphysical landscapes is Asplund's

The Search for a Paradise Garden

crematorium at Stockholm (pl. 37). Emotionally it is overwhelming. The powerful arts of illusion are organized with consummate skill to create a frame of mind which apprehends man's passage through the world, his hopes and aspirations, his bodily return to nature, and the passing of his soul to eternity.

My second landscape, also from Scandinavia, is small and gay and tender. It is the flower garden of circular pools in the Tivoli gardens, in Copenhagen (pl. 42). It is to me a work of genius. I think its grip upon the imagination is that it resolves the grandeur of the movement of the universe with the tenderness of plant life on this particular planet. It is a reconciliation of the passing moment with eternity, and it is because of this, and not because of shape or form, that it reminds me so much of the grand harmony of the Persian garden.

My last example is the tomb of Cecil Rhodes in the Matopo Hills near Bulawayo in Central Africa (pl. 41). It is called World's View. The monument is just a slab nine feet by four feet six inches let into the rock on a slight eminence. The grouping of the mighty boulders round it, the shape of the eminence, and the bare disordered Matopos, as old as the world itself, combine to give to mind and matter a significance that is profound. This simple double square of geometry set in chaos is as symbolic as was the Greek temple in its rough homeland; you cannot leave the Matopos without pondering on the destiny of man.

VIII

We have before us a world seeking for peace and tranquillity. Landscape architects cannot lead the world, but they can interpret those feelings and urges that are within everyone and create the first need for the human being, a reconciliation between himself and his environment. As a matter of fact, by doing their work properly, they can do very much more. It seems to me that international landscape is like international humanity, and if we face the issue of the one, we face that of the other also.

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There should be no such thing as an international style, such as was concived in the 'thirties, for the reduction of all design to a pattern would be to reduce us to the animal state. The construction of an international landscape depends on three qualities: the quality of regionalism, which holds us to an environment; the quality of the universal, which holds us all together; and the quality of individuality, which is the separate human mind and soul.

This is in fact the echo of history, the legacy respectively of the Chinese, Persian, and Western philosophies. Peace in the modern world of landscape would seem to depend upon the recognition that none of these philosophies is sufficient in itself. If we are not wiser than our forefathers, we do at least seem to wish to be more tolerant; and this implies that our garden, like a good salad, must be composed of all these ingredients.

So diverse are the people, climate, and geography of this world, that our universal garden must, alas, remain an abstract idea. But this study can be concluded with a cheerful thought. The emblem of the International Federation of Landscape Architects is the Cock and the Rose, taken from Jesus College, Cambridge, where the Federation was founded in 1948. Now it happens that the cock came from Persia, and the rose was its original flower. Over two thousand years ago, Alexander the Great, no doubt meditating in a Persian Paradise garden (for he certainly dressed in Persian robes), planned the fusion of the two opposing hemispheres into one peaceful world constitution. Where Alexander failed by force of arms, the cock and rose and a thousand more such symbols of the arts of peace and of the contentment of mankind might yet succeed.

IV

Ourselves and History

THE purpose of this study is to assess landscape values in the modern world against an historic standard that is beyond dispute. The age in history which has been selected is the Periclean age in Greece, and the contemporary canvas with which it will be compared will embrace the modern world with particular reference to the landscape achievements of the various pavilions at the Brussels Exhibition. Since the Periclean age is the best of its kind in history, it is only fair to compare this with the best of its kind of the present century, and to overlook and forget that to produce a single work of art today means littering the world with tens of thousands of works of the commonplace and of the ugly.

It is often a matter of surprise to the modern mind that a country as small as Greece should have reached such lofty standards. But smallness and compactness seem to have been an advantage, and it is the small city state which has been responsible for much of the progress in the history of art. The equivalent in the world today is such a country as Denmark, where the standards of landscape are always a source of delight and astonishment to her visitors from England. In a land such as England there are too many people with too many ideas doing too many things.

Too many people. Too many clients. Too many committees. There is little doubt that the vigour and splendour and high aesthetic stature of Athens was really due to one man alone: Pericles. Brought to power and retained by popular vote, he

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must have been the artist's ideal chairman of committees. He it was who provided the vigour, the policy, the good business management, and above all, the vision and imagination. He it was who appointed the artists whom he knew to be sympathetic to his ideas, and whom, once appointed, he left alone to do their work unmolested by the hazards of everyday existence. They in their turn were in discourse with companions of their own choice, continually exchanging ideas and criticisms. Now compare this with the modern world. Not only is the creative designer remote physically from his colleagues; he is remote also from his work because his mind is constantly pre-occupied with matters essential to his business but inessential to his art. It is gratifying to know that in England at least every effort is now being made to simplify controls in aesthetic design.

There is a great urge today to meet and discuss problems with fellow practitioners, each of whom has something to give and to take. The existence of this force is one of the strongest creative factors in the modern world. If it can only cross political boundaries and reach its objective it will have results far beyond those attained by the Greeks.

In this study of History I have chosen seven aspects of our art for comparison. These are the senses, light, colour, composition of buildings in space, art and nature, illusion, and idea and ideas. When I mention certain modern examples specifically, I do so solely because I know these works personally and they illustrate my point. The foreign pavilions at Brussels, for instance, were a profitable quarry of good things, which in the aggregate have undoubtedly helped to advance the cause of landscape.

1. *The Senses*

The most thought-provoking book on landscape in the present century is perhaps *The New Landscape in Art and Science*, by Gyorgy Kepes. First there is a splendid introduction on perception of the world around us by John Burchard, Dean

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of the School of Humanities and Social Studies, Massachusetts Institute of Technology. This is followed by a series of remarkable photographs of a world of landscape too minute to be visible to the naked eye, which can only be brought to our comprehension by the microscope and telescope. The thesis of the book is that a vast range of hitherto unknown patterns exists in nature which could be introduced into the arts of landscape and painting. But as Mr. Burchard points out, our eyes do not, for the most part, perceive the world around us, and only concentrate now and then on what is enjoyable. His contention is that modern man is handicapped in his aesthetic sensitivity by the appalling fact that his faculties are dormant most of the time, solely to protect them against ugliness and the commonplace. The Greeks, on the other hand, developed their perceptions largely by letting them dwell perpetually upon a remarkable landscape. The Greek scene, although no doubt more cluttered with rather cheap dwellings than most of us may imagine, nevertheless was consistently agreeable and stimulating, whether you were in one of the many valleys occupied by a city state, or voyaging on the blue seas around the lovely islands.

A study of the perceptions can be without limit, but here is an example of the advantage enjoyed by the Greeks. The light in Greece is crisp and clear, and so are the hills and the islands. The land formations are seen as separate and decisive forms, whereas in most parts of the world the forms slur one into the other. The constant presence of this phenomenon gave the Greek an urge for clarity of form which was realized particularly in sculpture. It is as though the voids between the forms were equal in significance to the forms themselves.

Having established the direct relation between the Greek and his landscape, we can then study the way in which he designed his work so that the feeling of it was conveyed by the senses to the brain in all its purity and with the minimum of interruption.

Perhaps the most important factor of all is that the Greek

designed his work stereoscopically. The example of the fluting of a column has been given in a previous study. The stereoscopic gives that sense of sculpture and solidity which is so much of Greek art; nature gave us two eyes with which to judge distance, and by the same process we can judge form. This is one of the reasons why I deplore that so much teaching of architecture and landscape should be by way of photography, which must be two-dimensional only.

A second factor is the subtle optical corrections employed by the Greeks, made at such vast expense that it is out of the question for any modern building to achieve similar results. But we have much to learn from a study of this accomplishment in Greek architecture, the lessons of which could be transferred at no great cost to the sister art of landscape.

2. *Light*

The Greek was a master of light; and so, but in a different way, are we today. Let me describe, for instance, the panorama of the moving sun at Athens as seen from the Agora (fig. 6). In the morning the Acropolis would be in shadow and the full sunlight would be on the activities of the market; the Theseion, the terminal point so to speak of the landscape in front of the Acropolis and the temple most closely associated with the Agora, would be in sunlight until the sun slowly moved to the west. The Theseion and the low hill upon which it stands would then turn to shadow, and the buildings high on the Acropolis would begin to glow. This panorama of the sun moving in the heavens is in many ways the greatest of Greek experiences, for one can experience also the movement of man's thoughts slowly from daily occasions to the grandeur of the gods.

When you are upon the Acropolis as the sun is setting, you become most aware of the great arts that have been deployed to pick up the lights of this falling sun. I think the most moving of all is the fluting of the columns, which seem constantly to be changing, widening, and lessening in their strips of light. Greek

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architecture is designed to catch light, and I know of no age in architecture that is quite so appreciative of what light means to us all (pl. 8b).

Let us now turn to the achievements of the modern world.

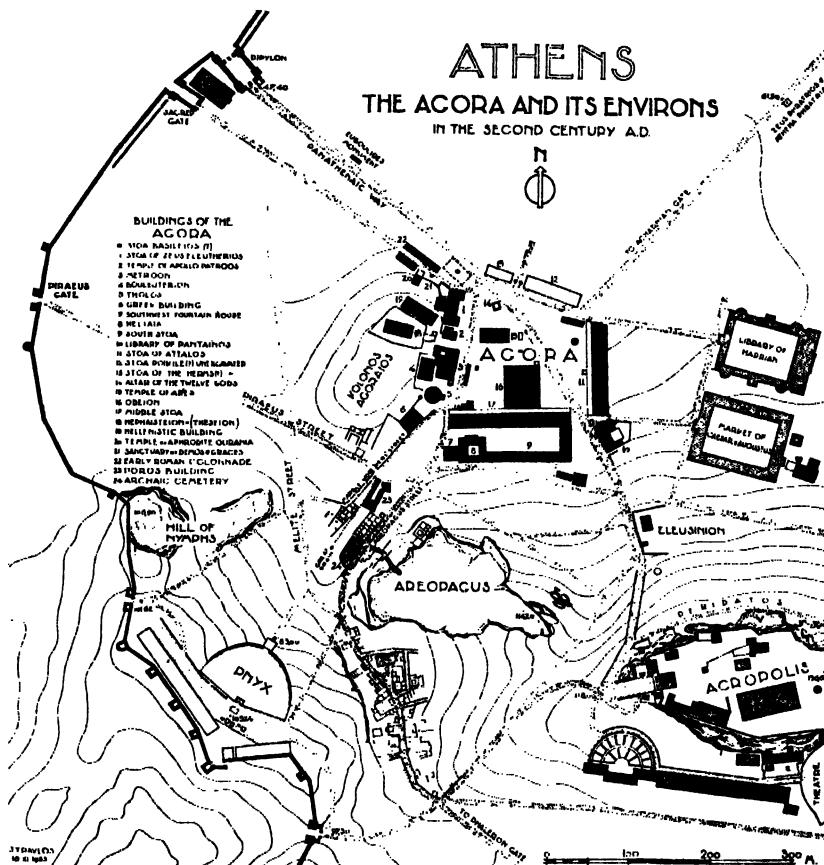


FIG. 6. Plan of the Agora and Acropolis at Athens

Here we have liberation of building forms by steel and glass, we have night illumination which can present nature in a fresh aspect, and we know more about the beauty of water than the Greeks either imagined or indeed wanted. The joining of sky and earth by the reflecting pool, the sparkle of sunlight on

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fountains and falling water, are only the first things that jump to the imagination. Brussels by night would leave the ancients dazed by its splendour. Yet I do not really think that either the Greeks or ourselves have begun to explore the mysteries and beauties of this most romantic of all landscape materials. We have, for instance, only to watch the luminosity of flowers against the sun, or to watch the clouds reflected in the glass façade of a tall building, to realize the opening up of a new world of light that may lie ahead.

3. Colour

Many visitors to Greece feel at first that the landscape is colourless. This impression is corrected in a few days, and one then perceives a sensitivity of colour that is delicate beyond words. Indeed, on returning to England in a sunlit spring, I was (for the first few days only) rather depressed that the colour of our countryside should seem somewhat brash. No Greek colour exists today on buildings, but I believe that the modern landscape is starting from a point where the Greeks left off. Although Islam and the Orient have carried on the tradition of colour, the western world as a whole relied upon form during the period of classical design, and upon the colour of flowers during the Victorian age.

The Greek used strong colour on his buildings in very small areas. This colour would be permanent against a background of the constantly changing but infinitely subtle colours of the natural landscape, and would therefore give a sense of stability in the same way as did the architecture. In assessing our problems of modern landscape, I have been impressed by the difficulty of projecting natural colour into the future; any design that depends upon that human element, the client, is unreliable. One begins to feel that the basic structure of landscape must be permanent, and that the accepted picture of continuity of maintenance belongs to the Victorian age only, and is based on the phenomenon of economic stability and an unlimited supply of

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willing and docile gardeners. There was a fine example of a red panel behind a natural rock in the Japanese pavilion at Brussels: a traditional colour, certainly, but none the less at home in its modern environment. The most agreeable landscape colour design I know is the bathing establishment of Tiefenbrunnen at Zürich, where the colours twinkle through the green foliage and tickle the eye of the human in the way that the colour of a flower tickles that of a bee. This colour process could be seen at a recent London exhibition of the works of Burle Marx, who clearly has learned the lesson of the vulnerability of any design that relies too much upon planting.

4. Composition of Buildings in Space

Undoubtedly the Greek saw his building as a separate unit, and it is consoling to know that at times the relationship between buildings was as uncomfortable as many that we see today. This criticism did not, I think, apply to the particular Athens of Pericles, because it is my view that Pericles himself did in fact have a remarkable sense of the unity of a landscape, even if the buildings were placed haphazardly one in relation to another. But when the hand of Pericles was not present, as at Delphi, we find a jostling of buildings that could only have been tolerable because of the splendour of the landscape in which they were set, the excellence of the architecture as separate units, and because of the supreme tranquillity of the Temple of Apollo which at that time dominated the scene. On the Acropolis itself there remain only three major buildings: the Propylea, the Erechtheion, and the Parthenon. It is therefore not easy to visualize the intention of the relationship of these three buildings, because the superb grouping that you see today is not the one as conceived. Nevertheless, these three units do group agreeably, and one of the basic causes would appear to be that in perspective, viewed both outside and within the buildings themselves, they interlock with themselves, with the landscape, and with the sky. In the modern world I would give pride of place

in this art of juxtaposition to the new town of Vällingby near Stockholm; a kind of varied but dignified magnificence which did not come within the Greek comprehension.

Vällingby is in the field of town planning, but one of the most delightful feats at Brussels was the juxtaposition and relationship between the series of pavilions beginning with the Swiss, passing through Yugoslavia and Portugal, to culminate in Western Germany (fig. 7). This corner of the exhibition, set beautifully and informally against trees, was significant of the modern conception of landscape as a total and harmonious design encompassing buildings which were themselves not necessarily harmonious one with another.

5. Art and Nature

We have always thought of Greek architecture as superbly set in the landscape, and I doubt whether any landscape in the world can be quite so moving as that of the temple at Sunion, set against the turbulent scenery of mountains and seashore (pl. 4). But it was more than this, and the teaching of architecture has not yet recognized how subtly the sense of order was increased by the delicate contrast with, and sympathy to, natural form. For instance, we know that the stylobate to the Parthenon is curved, and this has always been said to be due to optical correction. But the landscape architect sees another aspect; he sees the Parthenon set on a rock having itself a rounded surface, and this tiny curvature of the Parthenon is seen to be a bond of sympathy between the building and the ground on which it stands. The play of contrast and sympathy between rock form and geometrical form is continuous (pl. 7a). The full development of this can be appreciated in the Sacred Way to the Acropolis which winds past the rock of the Areopagus, and skirts lesser rocks on its dramatic way to the Propylea. The Greeks abhorred a straight line of approach, for they liked their buildings to be seen in three dimensions as rock outcrop is seen. This sensitivity between art and nature is of peculiar interest in the

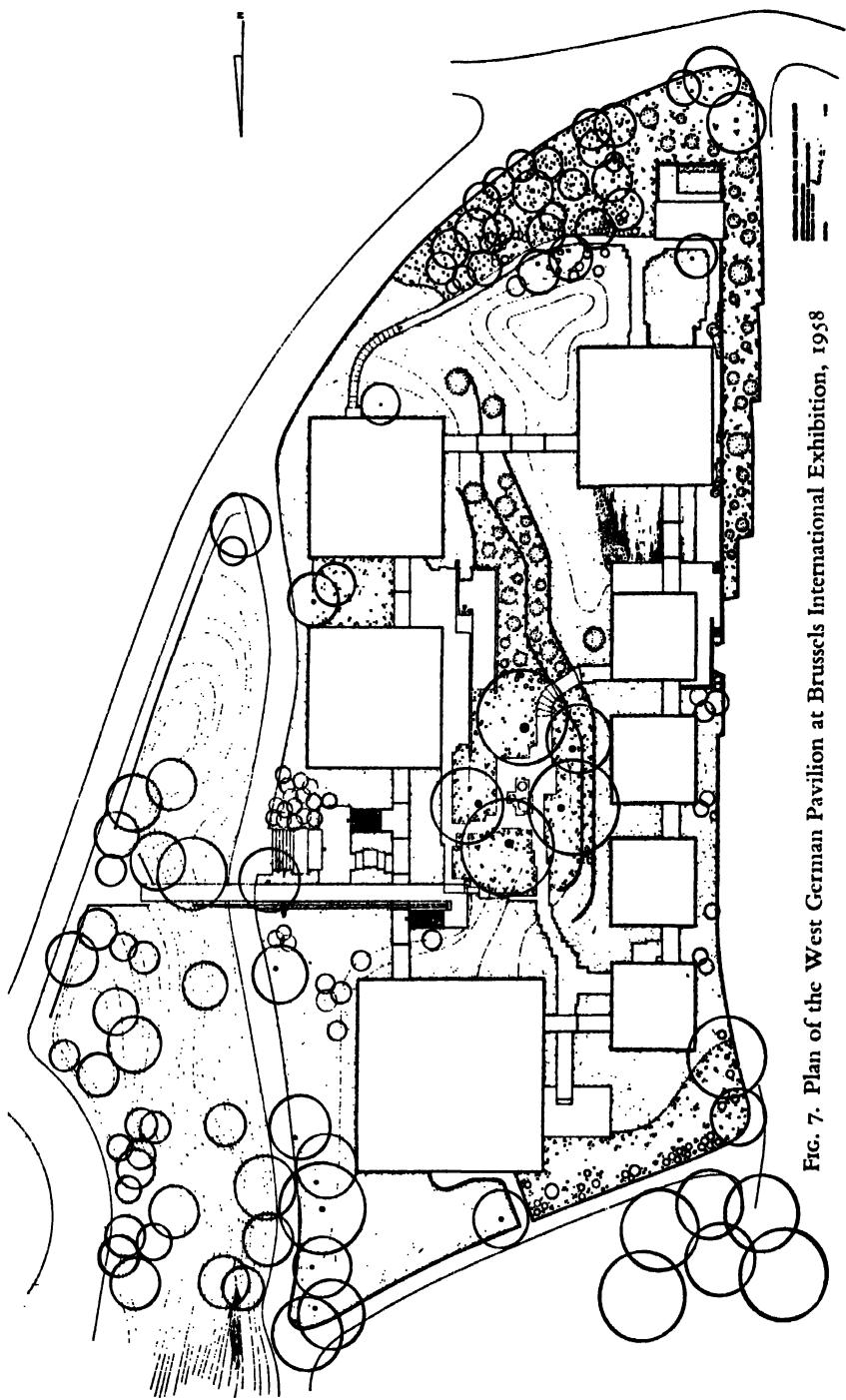


FIG. 7. Plan of the West German Pavilion at Brussels International Exhibition, 1958

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modern world, for our fear is that our way of life may become over-ordered and mechanized, and we have a biological urge within us to return to the natural environment from which we spring, to which we belong, and to which we must inevitably return.

There are many examples of this interlocking of geometry and nature in the modern world. I would give pride of place today to the German pavilion at Brussels (pls. 56, 57). This was a brilliant study in the interlocking of geometrical and natural form, and to my mind the loftiness of the conception and the care with which the building was detailed not only equalled its counterparts in history, but pointed the way to the future in a manner that is an inspiration. The German pavilion was excellent not only because it was well executed technically, but because it contained an idea. That a landscape should contain an idea seems to me of paramount importance; without it, it becomes merely a technical achievement.

6. Illusion

Before we consider our final and overwhelmingly most important aspect of landscape, namely that of the *idea*, we must study how the mind can be severed from reality and how the imagination can be set free to roam into a landscape of its own making. The Greek drama, played out of doors against a permanent backcloth, had mastered this art, for always the imagination was carried to scenes beyond the visible picture. But the Greeks were not in quite the same way masters of physical illusion. The Austrian pavilion at Brussels moved us because its great bulk seemed to be floating in mid-air, and it is not of primary importance to us to learn how the engineers did it. Capability Brown created great rivers by a small volume of water. Others have created infinity of space by concealment of boundaries. Our real studies of infinity in landscape stem back through eighteenth-century England to China and Japan. It is this art that today dominates the spaces of the small domestic

garden; an essential part of modern landscape and one that appears not to have existed in Greek days except for the small and finite architectural patio.

7. *The Idea*

All that has been said up to now is concerned with technique. The modern world, with its splendid schools and superb technique, is nevertheless uncertain in its approach to the world of ideas, yet without this seventh and last aspect of landscape architecture all else is meaningless. In comparing the present age with the Periclean age in Greece, we are faced once more with the fact that the modern world has potentially a superabundance of ideas, whereas the Greek world was comparatively restricted. There are in fact only a limited number of ideas in Greek architecture, but how splendid they are, and how well they were developed no matter where the landscape! The noblest idea is of course that of the temple which tends to bring the rhythm and order of the heavens to the unruly surface of the earth. We find it again in such a structure as the theatre at Epidauros (pl. 9), superbly modelled into and out of the hills, where the background of the hills was a constant part of the scenery and a stimulus to the imagination. But perhaps the grandest part of Epidauros is the circle of the orchestra which appears to draw down to earth from the heavens the perfect shape as conceived by the Greek.

These are great conceptions, and surprisingly enough, we find, here and there in the modern world, ideas equally great. In the previous study I referred to three major landscapes of this kind, of which I should put the crematorium of Asplund as the highest achievement of landscape in the modern world (pl. 37). But the idea need not necessarily be heroic, and certainly I would place the purely materialistic idea of the Dutch pavilion at Brussels as one of the finest achievements of its kind (pl. 55). Here you had the idea of water, not tranquil water, nor water from fountains, but water in waves such as the waves of the

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North Sea which the Dutch have to combat. This was taken as the theme of their beautifully executed pavilion, and I found not only the sight but the sound of water entrancing and overwhelming in its sense of the spirit of Holland and her eternal battle. Again I liked the idea behind the enchanting garden courts of the British pavilion; and sometimes feel that the British sense of humour that can laugh at itself in this way is something of an idea in itself.

An idea lies behind everything physical. Every commission, and this applies most particularly to landscape, contains within it the germ of an idea, and it is the first requirement of the designer to ferret out this idea and thereafter never to let it go. I must repeat, as the greatest lesson we can learn from history, that any design without idea and depending on technique alone, is sterile. Equally, any design that has a multitude of ideas but no single idea, is confused and disturbing.

The study of the idea at once causes us to enter the world of the heroic, the gods, and the subconscious. For the last century and more the painters and sculptors of the world have been probing the world of the subconscious, and this may be why so much painting today is unintelligible to the inexperienced layman. At all times great art has played upon the subconscious, but it is only in recent years that this has become almost an intellectual study. It is not easy to make comparisons with the Greek world. What one can compare is the trouble and chaos in our own minds and the way in which easily, simply, and to us today really rather ridiculously, the Greek found his own solution, and thereby lifted his art from the material into the divine. We know how he created his gods so that they were only a very slight degree removed from human beings. They were irresponsible, not very kind, unreliable; but they were heroic, and it was the aim of all Greeks to endeavour to live up to the gods. This explains their love of athletics, and why the games at Olympia were as divine as the mysteries at Delphi. And here we must note the remarkable conception of these two landscapes as

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supporting an idea: the turbulent wild remote landscape of Delphi (pl. 5), from which issued the wisdom of the oracle, and the sweet, peaceful scene at Olympia, which was intended to give harmony to the nations assembled there for the Games. This conception of the gods was echoed in the buildings, and every divine building was by extremely able technical means lifted beyond the day-to-day materialism of man. This is why we feel Greek architecture to be aloof. The approach to the Propylea, and thereafter to the Parthenon, is planned as an approach to the gods. What at first appears unaccountable to the modern mind is explainable by the desire to make all men feel they were in the presence of immortals greater in every way than themselves.

The steps to the Propylea, and even more to the Parthenon, are so big as to be grossly uncomfortable. Your modern client would say instantly that his landscape architect did not know his job; but the Greek would reply that any reasonable distortion and a good deal of discomfort was wholly justifiable if it supported an idea. I think we must always be clear on the difference between the *actual*, which is the domain of the scientist, and the *idea*, which is the domain of the artist.

There are of course many examples of the lofty idea in modern landscape, but there has been one so splendid in its conception, and playing upon so many subsidiary ideas, that it is a pleasure to end this study with the description of the American pavilion at the Brussels Exhibition. While the landscape of the fine exterior was very commendable, the interior was quite outstanding, and significant in the field of landscape as well as of architecture (pl. 54). Something about the informal and odd grouping of the exhibits appeared to express the disorders of the modern world and to give little hope of tranquillity; but these disturbances were set in so simple and majestic a shape as to give the sense of repose that always underlies a grand and harmonious design. This interior, by reason of the great circle, recalled the theatre of Epidaurus.

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We have now completed our study of history and can well ask whether the world has gained or lost in this assessment of the present against the past. Of course there is only one answer; we have gained immeasurably. Our admiration for the Greek achievement is unbounded but the modern age has burst the bonds of Greek aesthetic laws as it has those of its philosophers. Let us by all means and at all times weigh our endeavours against those of history, but let us never accept the past as final and become copyists. Above all, the Athenians of the age of Pericles were bold and original, creative and thoughtful, intensely argumentative; and so are we.

V

Building in the Landscape

PERHAPS this subject is the most important of all those affecting today the profession of architecture. One can define landscape as the relationship of objects in space, and we are all aware of the intense pressure upon our land to contain more objects than is comfortable, and objects whose ideas are often in conflict one with another. It is not possible in so short a space to do more than provide some slight food for thought.

This study will be divided into two parts. The first will deal very broadly with four major factors in design: namely, the natural elements, the idea of landscape composition, the relative values of objects, and influences both historical and contemporary. The second part will be a detailed study of an aspect of land design which is of prime importance and is so often neglected: namely the consideration of ground modelling in relation to building; in short, what to do with your subsoil. I call this second part, *Line and Volume in English Landscape*.

I

FACTORS IN LANDSCAPE DESIGN

Natural Elements

Before we can even contemplate the aesthetic design of landscape, two vital assumptions must be made: that the objects have in fact fitness of purpose, and that the peculiarities and limitations of eye and brain have been taken into account.

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It was probably Christopher Hussey who first made it clear that such a structure as the Beit Bridge over the Zambesi, so splendid in the landscape, is not in fact a work of man but a work of nature. When, however, man deliberately distorts the laws of nature to put his own emotion into building, we call it architecture. (The opposite to science in the landscape is the folly, and the most extreme, one imagines, would be one of those really jolly follies of William Kent.) It is fairly safe to say that unless the requirements of nature are initially satisfied, nothing the artist can do can subsequently make a good landscape. Of course there are exceptions, but let us test this by considering two examples, the one a row of semi-detached villas on a skyline, and the second a group of farm buildings. The villas strike our senses disagreeably, and are what we know to be ugly, for very good practical reasons. Their disposition is illogical in our climate. The gaps between the buildings, which give the serrated effect, allow draught that makes the gardens disagreeable for man and plant alike. There is no natural protection in the form of hill, tree, or even curtain wall.

Let us now recall to mind a typical English farm. Here we observe compactness of building, grouped to give protection from the elements, and further protected by trees. The group is set in the environment which nourishes it, and itself has the proper proportion of arable fields and meadow, of hedgerows and trees, gates, and all the paraphernalia of farmland. The first impact on the senses is one of pleasure and indeed it may be that logical farm groupings have had as much subconscious influence upon our aesthetic judgement as any other building type. This affection for the informal and asymmetrical is all part of our country as opposed to our urban background.

It is not really true to say that beauty lies in the eye of the beholder, for it lies in the brain, and the eye is merely a very important channel of communication. The mind is itself a fascinating study of landscape: what it likes, what it dislikes, and

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how it will provide its own self-delusion. What we do know beyond doubt is that the influence of good or bad environment can create or disturb peace of mind, which in turn must affect judgement, and ultimately the progress of civilization. The mind would appear most nearly to reach fulfilment when its urge for order is properly balanced with its primitive origins. In a world, therefore, that is tending to mechanization and consequently to geometry, it is no wonder that landscape architects feel the need for counter-balancing this with the arts arising from natural phenomena. We are like a doctor injecting a counter-irritant into the blood-stream of a patient.

The mind receives its visual impressions of any one landscape as it receives motion pictures in a film, in a series of countless individual views. These it puts together to form a three-dimensional memory of the whole, and it cannot be too strongly stressed how important it is not to place too much weight on any one view in the landscape, nor to think that, because another view is not seen at the same time, it has therefore little influence. It is constantly stated at Planning Inquiries that since such and such a feature A cannot be seen at the same time as B, therefore the reaction of A upon B is negligible. This dangerous fallacy can be better understood if we think in terms of internal planning, where the shape of every room reacts upon the others, although not seen at the same time. On the other hand there is no doubt but that in certain circumstances the imagination can be made to deceive itself, despite the intellect, to a quite remarkable and astonishing extent. The ancients played fully upon this, and the most interesting modern example is the great mound in Asplund's crematorium at Stockholm, which is artificial and behind which lies the railway (pl. 37). Perhaps it is the finest attribute of any designed landscape that the imagination is deliberately encouraged to roam at will beyond the seen picture and into its own pastures beyond. It is not possible now to explore further this world of the mind, but it is a little disconcerting to think that there appears no dramatic advance in our

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knowledge of the relationship between mind and eye since Humphrey Repton wrote his famous works on landscape.

The eye as the vehicle of information is by no means the feeble eye of the camera. So much of our study of architecture and landscape is made from black-and-white reproductions, that we tend to forget certain basic factors. We have, for instance, two eyes which are intended to measure distance and volume, such as is necessary in forest conditions. There is, in fact, no smooth surface in nature, except perhaps ice. The roundness of, say, an ash tree is felt rather than seen by the brain, and it is in this power to convey a sense of solidity that quality of architecture must ultimately rest. Consider this little pink house in Nassau (pl. 43). I think all buildings should be designed with sufficient of the third dimension to enable the mechanism of the two eyes to function stereoscopically. Shadow and perspective are not enough. Those who would pursue further the study of optics should again study Repton. Here you will find the value of planes of objects, of moving objects, of the panorama that is itself moving, and why this dark and moist country prefers an interesting silhouette to the plain outline of the Mediterranean. You must, however, go to the Greeks for the study of optical correction, without which a building can appear flimsy. But always, please, study from the real and not wholly from books.

Composition in the Landscape

The natural landscape pleases our primitive instincts, but it is not a work of art. We have certain pleasurable emotions when we sit upon a hillside and contemplate a valley with all the attributes of agricultural scenery. But if from this we turn to one of the great Rubens landscapes in the National Gallery (pl. 20), we receive a sense of man's grandeur in the scheme of things that is far above his struggle for existence. It is through the painters that we feel most clearly this singular reaction of one object upon another, a reaction that exists in our imagination

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only, but is the very core of landscape art. From a total composition by Rubens, let us turn to the 'St. John on Patmos' of Nicolas Poussin (pl. 21); there is no more remarkable example of the quality that unites a most extraordinary complex of objects. The painters are in fact the real sources of landscape study, partly because an idea can be realized more easily in paint and canvas than in the materials of landscape, and partly because no physical landscape can be safe from subsequent deterioration. Consider, for instance, the view of Boscobel by R. Streeter (pl. 26b). The date, mid-seventeenth century, is almost contemporary with Rubens and Poussin, and there is no sense of total composition, but here we learn the value of trees in relating one building to another. Without trees these buildings would be composed as badly as any built in the present century. Three views of Windsor Castle and Eton (pls. 26a, 27), as seen by painters two hundred years apart, are each in their way equally revealing. That by Hollar, again inferior as a work of art, does, however, indicate some architectural appreciation of relation of form to site; probably our taste is modelled almost as much on the asymmetrical shape of castles as on farms. The view of Windsor by David Cox shows a beautiful relationship of trees and buildings in group, while that of Eton shows an interplay between individual stems of trees and the buttresses of the college chapel. I could pursue indefinitely this study of trees and architecture, but Lionel Brett well covered the subject in an address to the Institute of Landscape Architects in 1956. 'If I had to isolate one characteristic,' he said, 'it would be that in English landscape the architectural elements are trees rather than buildings.'

Landscape painting went through many uneasy phases during the nineteenth century, until the arrival of Cézanne. With his clear architecture of building, tree, and ground, Cézanne always seems to me to have inherited something of Poussin, and at the same time to be the forerunner of a new world (pl. 32). The twentieth-century landscape has developed further in the work

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of Paul Nash. Nash was primarily preoccupied with the association of structure and landscape and was one of the first philosopher-painters to recognize and isolate many of the factors which are tantalizing us today. There is, for instance, the solid geometry of rounded hill and crisp architecture (pl. 33). It would be impossible to mention all the modern landscape artists who have made their contribution to this art. It is as great a contribution, but one waiting to be sought out, as that of the eighteenth century. The view of Mouschole by Ben Nicholson is a painter's exquisite interpretation of the interplay between land forms and geometry (pl. 38). Search out Hitchens (pl. 52), Sutherland (pl. 40), Pasmore (pl. 58), and you will be repaid beyond measure in your understanding of the world around you. Above all I think we owe most to Henry Moore, who endows a group of inanimate objects with a significance that is outside the understanding of the intellect, but clear enough in its appreciation of values in the modern world (pl. 60).

Landscape Values

The most formidable and most immediate landscape issue before this country, a problem more acute here than anywhere else in the world, is that of the mass-produced or mechanical landscape imposing itself upon what may be called the hand landscape. The last time a major invasion like this took place was in the political sphere—the invasion of the Romans; in the same way fierce pockets of resistance heroically established themselves in various parts of the country. But on that occasion a higher civilization was conquering a lower, and a truer analogy with today would be the Roman conquest of Greece. In the same way we all hope that the values of our ancient landscape will survive and be sympathetically absorbed by those of the world which is upon us.

The issue is clear. Dr. Hoskins divides the English landscape into three broad periods. Until 1570 the predominant idea was the clearing of the forests, and Gothic architecture, based upon

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the tree form, sprang up among the clearings. From 1570 to 1770 agricultural England was at its zenith and most peaceful, and here we have Renaissance architecture based on the human form. Complementary to the architecture was the English park. From 1770 onwards the machine slowly took the place of the individual hand, and today is master of the scene. Can giant cooling towers, atomic power stations, overhead pylons, motor roads, be reconciled in the same landscape with buildings of animal vegetable, and human scale? Sylvia Crowe has attempted a reconciliation in her various publications, and all seem agreed that if we could reserve three distinctive landscapes, we should be satisfied. These three landscapes are, firstly, the primitive natural landscape to which we should constantly turn to sustain our biological values; secondly, the natural landscape without any sense of scale, into which would fit the monster structures of power, whose job it is literally to tap the resources of the universe too prodigious for us to comprehend; and, thirdly, the humanized landscape which is the mark of civilization. The last category concerns us most, for not only is it invaded by members of the second, or monster category, but is now for the first time at war within itself. The cooling tower is an example of invasion of the human landscape, for the same tower can be beautiful or hideous solely according to where it is set. The juxtaposition of human buildings within the human landscape is a much more complex problem, and it is vital that, before we study the merits of a building architecturally, we study its philosophic value in relation to its environment.

This question can be crystallized into a single example from the scramble for tall buildings in London which has fortunately placed the issue before us all exceptionally clearly. It concerns a first-rate architect, Professor Robert Matthew, a first-rate building, a first-rate town planning and volume relationship to environment; and yet one pauses before giving full approval. This is the proposed New Zealand House. There are many who feel that ultimate approval cannot rest with our profession,

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which is primarily responsible for aesthetics, but rather with the country as a whole, which is concerned with the values of civilization. Oddly enough, the issue is well shown in a Dutch painting in the adjoining National Gallery (pl. 22). Observe, first, the scale of the central landscape, with its bridge and memorial column; and then observe the dwarfing effect provided by the structure on the right. Then observe the picture as a total whole; the values have changed, and something of stature has gone from the central landscape; nevertheless we feel that the final work is greater in idea than any of its parts. It seems to me that the great height of New Zealand House must draw to itself values that lie in its classical environment, that Nelson and the Duke of York will shrink a little on their columns, and that our ceremonial part of London, so small and yet so ingeniously magnified in stature, will become a toy. Yet the question one asks oneself is whether, since in fact in the modern world such ideas are in themselves of less significance than in the past, it is not appropriate that they should now be absorbed into a bigger picture, as in the Dutch painting.

Continuity of History

Of less spectacular urgency, but perhaps of deeper importance than the relationship in the dimension of space, is that in the dimension of time. Unlike the whole of the rest of the animal and vegetable world, which reaches a climax and then, all else being equal, stays put, man is in constant flux. Everything we think and do is part of the continuity of history; it is this quality of being a link in the chain between past and future that ultimately ensures the theoretic, if not actual, survival of any building through the centuries. This point is demonstrated by the following contemporary works, each of which in its own way awakens a deep response of historic continuity and is a record of the varied influence of our past.

The first is the 'King and Queen' of Henry Moore (pl. 60), which carries us back beyond the Renaissance architecture of

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man and of the Gothic architecture of trees, to primitive man of Stonehenge and Avebury, concerned with the ground and what lies underneath. The sculpture of Moore can be associated with the modern or the very ancient, but with nothing in between.

The second is Halland in Sussex by Serge Chermayeff (pl. 35). The clarity of thought takes one back immediately to Greece, the source of all intellectual art of western civilization.

The third is housing in East Anglia by Tayler and Green (pl. 34), which in this instance retains effortlessly the same significance and value in the landscape that is the historic relationship between man and the soil.

The fourth is Frederick Gibberd's plan for Harlow New Town (pl. 39), which has grown from the English complex of the agricultural field patterns. It is a fair interpretation that we have here the patterns of an old world as seen for the first time by air travel, with the impressions put through the aesthetic digestive organs. The Harlow Plan and the buildings intended to rise on the plan are somehow related to the way of thought of the Mousehole of Ben Nicholson (pl. 38): a beautiful relationship of the ideas of geometry and natural form.

The fifth example is the Youth Hostel design for Holland House by Casson and Conder (pl. 45). The historic fragment has gained immeasurably by the new buildings; there is an interplay between the old and the new that makes this design one of the most interesting today for its study of abstract sculptural form in architecture.

The last example is taken from the pages of the *Architectural Review* of some twenty years ago. It is a fragment of Lubetkin and Tecton's Dudley Zoo (pl. 44). In its own way this work has not been surpassed for its imagination, and points to a great truth underlying the relationship of all objects in space as well as time: that objects of different kinds can be united, provided they contain the poetry of their subject. How else can we explain a zoological garden of the twentieth century being in

harmony with a castle ruin of the Middle Ages? The architectural shapes and curves inspired by animal as opposed to human form have no normal place in the history of architecture, and it is this poetic quality rather than a very able technique of landscape that has really provided the unity.

A Creative Landscape

Because I feel that ultimately it is the positive and even aggressive outlook to landscape that is most required today, I would like to mention the liveliest examples of the kind of creative landscape that I admire so much. The first is the capital of the Punjab, by Le Corbusier, Maxwell Fry, and Jane Drew. The second is a magnificent sports field from Mexico. The third and most exciting is from Miami. The lagoon between shore and beach is so shallow that some years ago it struck the imagination of a developer to create artificial islands with material pumped from the sea floor. These were laid out in building plots, and are today an Arcadia of houses and trees with gardens stretching to the water's edge. It is an example of identity of interest between a courageous private developer and the community at large. I cannot resist also mentioning another example from Florida (pl. 46), now in course of construction, where another Arcadia is being created from a swamp. The simple process of making good site plots by creating simultaneously waterways at the end of each garden, is plain but imaginative sense.

II

LINE AND VOLUME IN ENGLISH LANDSCAPE

It has been pointed out by Nikolaus Pevsner in his Reith Lectures that the Englishman has been more concerned with line than with volume. This is probably true as applied to the historical centuries as we know them, but one must bear in mind that these times are sandwiched between prehistoric and modern

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times, when man sees the world in a very different way. Avebury, Stonehenge, and Henry Moore seem to be closely linked, and it is because we are beginning to see the curves of landscape in a way wholly dissimilar to the eighteenth century, and because of the vast possibilities of landscape art great and small, which this reveals, that we must pursue this subject in detail.

The idea of the English School of Landscape Gardening properly begins in that area so fascinating to Englishmen, the Venetian mainland. The background to the Castelfranco Madonna might well be an organized English park (pl. 18). Palladio placed his geometric Rotonda on ground whose undulations contrasted with his sense of repose, stability, and order (pl. 19). It is one of the curiosities of aesthetics that, whereas a modern structure enjoys the same landscape setting as a Palladian country house, in point of fact the basic appreciation is different. The Palladian saw the land as surface curve only, a line of beauty suggestive of Hogarth. His one determination was to push away reality and design an idyllic setting; what happened below the surface was no concern of his. The modern, on the other hand, being a realist and knowing very well the formidable properties of matter underground, sees and understands a hill as a solid.

It is at this point, however, that the modern departs from the realistic, for there is no doubt that the rolling shapes of the comparatively useless Sussex downland have a deeper emotional appeal than the useful weald. This appeal springs from several causes, one of which is undoubtedly biological association of ideas and another the sense of antiquity. Every aspect of the downs is in opposition to the mechanical age, but how important it is to use and develop this source of emotion to enrich the geometric world! In principle, the aesthetic difference between the eighteenth century and ourselves is that the former contrasted massive weight of building with the delicate curved line of ground, and the latter are tending to contrast delicate line in structure with massive ground swell (pls. 23, 36, 37).

The Chinese have always had this sense of volume in their

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art (pl. 2). It may be that modern England and ancient China are more closely linked than is at first apparent. Both civilizations have felt the grip of the machine of the universe, the one mathematical and the other biological; and to restore the balance the new would do well to understand the old.

In England we are only beginning to understand and develop this aspect of design, and there appear to be very few examples of ground modelling. The cement works at Hope were started in the Peak District before the war, and the model for a future fifty years' planned development of quarrying was made some twelve years ago (pl. 47). Apart from the clay workings, vast extractions of stone had to be made in the hillsides. The attack on hills in such an historic position seems an attack on the very body of England, which indeed it is, and the arts of illusion have been used to re-create the hillside by waste material, and thus reduce the apparent breach in the hill. The work is progressing partly according to the original plan, but indicates the difficulty of seemly land development over so long a period. Miss Crowe's hills at Harlow New Town, made from waste soil, will surely enrich the landscape values, apart from their primary work of concealing the gasometers.

These are two comparatively robust examples, but a more sensitive treatment is Gustav Amman's land formation made from waste soil at Waid hospital in Zürich. These curves are rich with emotion, and are appreciable in the landscape both at close quarters and from afar (pl. 48a). The setting of Sven Markelius' house in Sweden is half the charm of the design: observe how the gentleness of the ground modelling emphasizes the lines of architecture (pl. 49). Almost every house and indeed most buildings have subsoil that is usually carted away at great expense when it could so well be employed on the site. A children's playground from Denmark by Eywin Langkilde is the most enchanting illustration of this (pl. 48b). It is a very good study of line of tree and volume of ground, and the subconscious biological appeal is obvious. Such an essay in life leads us to the

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most famous of all modern hill forms, Asplund's crematorium at Stockholm (pl. 37). Apart from being a masterpiece of modelling, it also contains nearly all the factors required in landscape described in the first part of this chapter. The imagination is released beyond measure, and equally in the dimensions of space and time.

VI

Motorways

IN 1957 over one hundred million pounds were spent on the roads of this country, and this expenditure will increase progressively. It is therefore of paramount importance that these moneys are well and wisely spent, and that what is given to man the motorist is not taken away from man the philosopher. For transport is only a means to an end, and that end is the good life, enjoyment of civilization, and often, as we learn from Izaak Walton, just the process of sitting still. This study is based on the belief that these roads could and should add to the exhilaration of daily life, and that a long journey upon them could be a continuous and positive delight. We all know by this time that monotony is to be avoided, but surely we can lift the arts of landscape above this negative and mundane requirement into something more in keeping with the great historic tradition of landscape that made this country famous throughout the world.

The study is divided into three parts. The first part comprises a critical glance at foreign roads, American and German, and thereafter a brief study of English history. The second part comprises a tour from the Kent coast to Oxford passing through three examples of road design recently completed and quite admirable of their kind, namely the Ashford by-pass, the Cromwell Road extension at Hammersmith, and the approach to Oxford; together with sundry stops and excursions on the way. The third part will assess the lessons we have drawn from history and current practice, to see if we can establish standards for the

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future, and (what is equally important) how we can ensure that these standards are maintained.

I

The most recent designs of the motorway in America were on exhibition at the 1958 conference in Washington of the International Federation of Landscape Architects, and followed the usual high standard of pattern that we know so well. Although American conditions are very different from our own, it is nevertheless beneficial to study their methods, standards, and results. The designs showed a grandeur of conception that is not solely due to plenty of land, great expenditure, and great demand: they are admirable examples of the work of a well-balanced team of experts which includes the landscape architect as a member of equal standing. There are more qualified landscape architects in America than in the whole of the rest of the world put together, and in this matter of collaboration I should say that they are thirty years ahead of our own country. The training of the American landscape architect is as long and arduous as that of an engineer, and is established at fourteen universities. There is clearly the mastery of a certain kind of space design, and we can congratulate ourselves that their art can be traced directly to our own English school of landscape gardening of the eighteenth century. I would place the road or parkway as one of the three great contributions America has made to modern landscape, the other two being the National Park and the comprehensive landscape like the Tennessee Valley Authority. My criticism lies in precisely the question asked by the Japanese delegate to the conference, 'How is it that wherever I go in America your roads are always the same?' I shall show later how Britain can excel all others in interest arising from geographical variation.

Of more immediate interest to us are the designs for the Connecticut Turnpike by the office of A. Carl Stelling, who

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describe themselves as site planning consultants (pl. 50). Note particularly the space design based on the masking of environment; and the central dazzle screen of formal hedge, to which I shall refer later. The drawings are worth studying in themselves, as showing the American appreciation of landscape.

Germany is the only country other than America to win fame on account of her roads. The Autobahnen of the 'thirties were the conception of a dictator, and were designed and executed with German thoroughness in planning and in detail. The surprising factor is that the military mind should have put so much value on landscape as to encroach upon their efficiency as roads. There is some doubt, for example, whether tall trees used in the central reserve and so close to the verges would be generally acceptable in modern England, and yet what pleasure these give to the traveller. The great principle is to give a sense of the landscape through which one is passing, and infinite pains are taken to work this out in detail. Although, for instance, a verge may be standardized between two tracks, these tracks can be on different horizontal planes. They can give the effect also of penetration of existing landscape rather than the separation of one side from another. We must remember also the delightful detail, the modest curb, the junction of bridge and bank, the rock surface of a cutting that is a masterpiece of informal gardening in itself. We know that experience of travelling along these Autobahnen has shown that they are too long and monotonous for safe driving, and it is basic in the new motorways that they have a continuous curvature. But from talks with those landscape architects who were concerned with these roads, I am convinced that their real achievement lies in the fact that infinite attention was given to what some of us would call trivial detail, even though need for speed of completion was greater than our own. The lesson of the German Autobahn lies in the German genius for preparation, for these roads were manifestly thoroughly planned before ever the machines began on the site.

The landscape of these roads is so competent (and the epithet

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has been chosen with care) that it would appear difficult to know how they could be surpassed in this country. But there is an element of landscape second only to geography, in which the tightness of this island is a positive asset, and for which the native genius for space design is peculiarly adapted. In England the countryside is littered at random with architectural buildings, modern and historic, which are often gems in themselves. The road examples that will be described will suggest how these features can be welded into the road scenery to give a positive addition to the landscape. Normally the American parkway or German Autobahn depends basically on screening undesirable environment, and is more negative than our own approach of hiding the existing undesirable but accentuating the good work of architecture. All three countries are equal in the value they place on the maintenance of distant views and natural scenery.

Beyond the national roads of America and Germany there is not much in foreign lands to detain us in our search for precedent. There are of course the spectacular tourist roads such as that from Athens to Sunion or the De Waal drive at Cape Town; Scandinavia can produce some charming planting detail, and Switzerland excellent hard detail. But these are exceptions, and it is only in England that we can learn from our own traditions and national characteristics. This island is, to ourselves at least, still the most splendid in the world; our instincts are sure and we will not be planned and regimented beyond a certain point; and our instincts are nowhere better expressed in landscape than in the great English park, our own contribution to the arts of landscape, and one that has given the basis of design to all democratic countries.

Except for the formal avenue, aesthetics played little part in road design before the end of the seventeenth century. It is true that buildings were skilfully placed to be seen from the road, that details of bridges and so forth were exquisite, and that tracks often led to the church tower; but none of this was conscious

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road design as we know it today. Then in the seventeenth century a curious development took place in England, comparable to the spread of the pylon today. Great landowners acquired a passion from abroad, primarily from France, to extend their domains by the formal avenue. From the avenue approach developed, as at Badminton, avenues tearing across miles of the English countryside. When the owner of Boughton House in Northampton proposed to plan an avenue to London, this was too much; but nevertheless he planted seventy miles of avenue round his estate, which may be seen today. Such fantastic geometry placed upon our landscape was wholly foreign to the native instinct, and early in the eighteenth century there was a rebellion. The art of the picturesque became almost a science, avenues were destroyed with some violence, and the English School of Landscape Gardening slowly emerged with an art that was wholly new to the western world, although practised in China for some thousands of years. This art of the picturesque is of immense importance to us, because it is the art of biological rather than of mechanical man. It is the coalition of these two elements in man that is the problem before us today (pl. 23).

William Kent, who laid out the grounds at Chiswick House, Capability Brown, and Humphrey Repton were the most famous exponents of this art. Of these Kent was outstanding as painter as well as architect; Brown systematized his method of design so that he could apply his rules and make a design for any area within a few hours; and Repton preached as well as practised. It is the writings of Repton soon after 1800 that still remain outstanding as studies of human nature in its response to environment. We learn, for example, of the value of curvature in drives, and he establishes in our mind a maxim that is of fundamental importance to us today and appears to stand the test of experience. This maxim is that in principle a road that is agreeable to drive along, is also agreeable as static scenery in the surrounding landscape. In studying Repton, however, we must remember that with him the road is subsidiary to the park,

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whereas in modern England it is the road that organizes the landscape through which it passes. In this our practice is different from the American way of thought.

The beginning of the nineteenth century is a most interesting period in which to study our national characteristics. It was of course the period of Trafalgar and Waterloo, but it was also the time when the two opposing elements in human nature were beginning to separate and to manifest their separation in environment. On the one hand is the unsurpassed landscape school of English water-colourists; while on the other is the first impact of the industrial age. Let us first take the painters, and of these one view of a lane by John Crome (pl. 24). This painting shows a very unacceptable length of road engineering, but it shows also a complex of tree foliage, the incident of a cottage, the glimpse of a distant view, and an over-all play of light and shade. It is precisely these elements, so powerful in their effect upon the imagination, that basically comprise each of the pictures that should unfold in sequence before a traveller today. It is merely a matter of planning technique that the pictures are to be broadened and lengthened to adjust themselves to greater widths, greater speed, and to all those factors of safety that are accepted without question by the designer.

Now let us turn from biological man to mechanical man. The canal age was in full swing, and by a curious twist of fate the first really national transport system has left a legacy of charm in the countryside that is remarkable, even if occasionally embarrassing to the authorities today. The charm lies as much in the sense of slowness and leisure as in the beauty of these meandering waterways and their bridges. But primarily of course it is water as a surfacing material which we enjoy so much; we should not think much of the canal ways if they were tarmac, and I should not be endeavouring today to suggest improvements for our tarmac roads if these were waterways, as in Thailand. The canal age was short and the coming of the railways marked the first significant impact of mechanization

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upon the landscape. The railway with its terrific embankments and cuttings drove ruthlessly over the whole of England. While some landowners were able to resist encroachment by the railway, as at Northampton, and others were able to make local adjustments, such as by the tunnel at Haddon Hall, yet by and large the railways went where they would without much opposition. We now take these railways for granted, but in fact they were at times utterly destructive to amenity, and this may be well seen in the line beyond Hemel Hempstead; but at times also the great railway arches lent exhilaration to the landscape, as at Barry in South Wales. Basically, however, it must be remembered that in 1840 England was still rural, and the loss of a few valleys and good rural scenery did not seriously alter the landscape as a whole. Our problem today is that we have so little scenery left that we must treat what we have with respect.

The history of road design throughout the Victorian age was largely one of expediency, with neither good nor bad landscape, until the coming of the by-pass. Early experiments, such as the Great West Road, were devoid of landscape of any kind, but such later works as the Barnet by-pass introduced planting as a means of beautification. Much has been learned from this planting; how avenues of poplars can become monotonous and even dangerous in the light flicker; how shrubs and flowers, pretty in themselves, may be discordant in juxtaposition to a road; and so forth. But a great deal is owed to the late W. J. Bean, of Kew Gardens, for the way in which he felt his way towards a solution. There are some good pre-war roads; two examples of which are the Mickleham by-pass and the Bix-Henley road.

The historic way to London from the Kent coast was along the Dover Road via Canterbury. The modern route is via Ashford and Maidstone, and there is some fine landscape north of

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Folkestone, to be marred soon by further pylons from Dungeness to Canterbury. The new road begins in a roundabout south of Ashford, and at once we realize we are in the presence of a major road which has been carefully considered in all its setting, environment, and detail. The siting of the roundabout is related to the adjoining knoll, whose landscape becomes part of the road. From this point onwards, whether the eye is concentrated on local detail or distant view, the traveller is aware that he is part of the scenery through which he is passing. The undulating tracks rise and fall gently with the ground. Windmill, factory, houses, have all been organized into the road scenery. The bridge is placed logically, but also exactly correctly for the pleasure and anticipation of what lies beyond. It is designed simply and elegantly. Although the planting is not finished, the road penetrates the cross-lines of tall trees, that appear to link one side to another. There is much food for thought in this combined work of planning officer, engineer, architect, and landscape architect, and I am inclined to think that the most valuable is the endeavour to make the road part of the landscape through which it passes. My only criticism lies in the colour of some of the detail, for green in a green landscape is discordant when not the proper shade. In short, you pass through this two and three-quarter miles with delight, and on contemplation you feel that if such a standard can be set here in the county known as the garden of England, why not elsewhere?

The way to London now passes through Maidstone where the siting of the new by-pass, with its superb viaduct and sense of landscape, will soon be a great addition to our road.

London

There is much in London that could detain us, but before leaving for Oxford by the somewhat circuitous route from Hammersmith, I want to mention two examples of individuality in road design. The first is an eighteenth-century terrace in Highgate, as logical and good a piece of road design as you can wish.

The terrace was built by a speculator for middle-class tradesmen; it has its own service road, separated from the main road by a green sward with trees. This is excellent common-sense planning, especially the level of the service road, which was almost certainly built up above the natural level by soil from the basements. The Bedford estate, with its squares, was built up in the same way, and to us this is surely a lesson in the use of cut and fill. While we are in north London let us look at the treatment of an embankment on the main road across Hampstead Heath; it is probably unpractical, but it is romantic and entirely in keeping with the area (pl. 51a).

The section of the Cromwell Road extension beyond Hammersmith Broadway is of course only a fragment of a much larger scheme, but it is a short length of a road in a built-up area that has been really well considered. It is jointly the work of the chief engineer, the architects' and planning departments, and the landscape architects of the parks department, of the London County Council. Special points are the beginning of ground modelling on the central circle, the original treatment of the central verge, and the lamp standards by Jack Howe, which have often been used where they clash with their environment but here stand rhythmically as sculpture in their own right. The detail of bollards, subways, railings, is good (pl. 51b). The planting on the whole is most agreeable. But above all, once again the English genius for space design has drawn in the existing features of the environment, whether it is St. Peter's Church or the view towards the river. This is a courageous experiment in design, full of good things. While we are in the neighbourhood, we should certainly have a look, too, at the grounds of Chiswick House, for here are earthworks formed by William Kent which tell us a lot about this forgotten art, particularly the use of soil to blot out the surrounding road and extend the boundaries by illusion.

We now have some eventful driving to negotiate the Chiswick fly-over under construction. This overhead road leading

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to Heathrow is a splendid conception, although we could have wished for the overhead elegance of the Jersey Turnpike south of New York. But there it is; steel is cheap in the U.S.A. and we must make do in this country with heaviness in concrete. Nevertheless, if we take a footbridge as an example, it is extraordinary how some engineers will design an elegant structure, while others with exactly the same problem will produce designs that are cumbersome and inert.

But we must press on to the next stop at Hanger Lane, the junction of A.40 (Western Avenue) and the North Circular Road.

Park Royal

In order to allow for an underpass, encroachment is necessary upon land owned by Messrs. Guinness, whose brewery, designed by Sir Giles Gilbert Scott, is such a feature in the scenery at Park Royal. The company were anxious to ensure that the view of the considerably widened road from the brewery, and conversely the view of the brewery from the road, should not only not be impaired, but if possible enhanced. With the company and all the authorities concerned with the road in general agreement on the landscape possibilities, it seemed an interesting example of what could arise from an identity of public and private interests. The preliminary study suggested that no variation from the standard treatment was possible, the road being on a massive embankment: it should be properly grassed, and softened here and there by groups of trees; and proper care was to be taken in regard to fencing, colour, lamp-posts, and all the paraphernalia of a 'modern road. This did not overcome the fundamental problem of the harsh parallelism of the road, and the consequent separation of road and environment. If soil were to hand to model and mould these shapes together, all would be well—and such subsoil was in fact to hand from the adjoining tunnel. Some twenty thousand tons will now be deposited within a short distance of the excavations instead of being carted five miles. With this soil it has been possible not only to model

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the land, but to create a hill some thirty feet high as part of a designed composition (fig. 8).

With the shape of the land established, it was now necessary to design the groups of trees. These have been so placed as to conceal unsightly features, to cause concentration on the brewery scenery, and to give an interesting changing panorama of light and shade to the motorist moving in either direction.

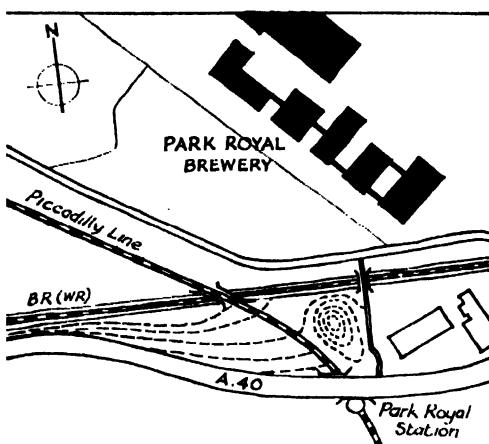


FIG. 8. Landscape for Messrs. Arthur Guinness
adjoining A.40 at Park Royal

This test case has certainly established in my mind the fact that it is neither cost nor design technique that is holding up good road landscape in this country, but solely the effort involved to get the ideas created and executed. Indeed I would like to see an obelisk erected inscribed with the names of all those who will have contributed to a landscape which will be purely romantic and have no function whatsoever; for it is the element of emotion that is basically the motive power of all our actions, and in the modern world this is being slowly stamped out as being irresponsible and uneconomic. Soon, too, if we are not careful, our perceptions will be so dulled that we shall not be able to observe nature even when it is presented to us with all the

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ensnaring arts of landscape. It is well to remind ourselves that our great period of expansion throughout the world, on which our fame and prosperity rest so much today, came about during the eighteenth and early nineteenth centuries when our perceptions of the natural world around us were also the most acute.

A.40

Future historians of road design will find much to interest them in Western Avenue, for the road starts at Shepherd's Bush with a sense of landscape reminiscent of Raymond Unwin, deteriorates, and then improves considerably as it passes Uxbridge. Here are some of the last endeavours at planting by Mr. Bean, and we see him courageously trying to reconcile modern drift planting with the cruel requirements of anti-dazzle. His central planting is successful where it passes through woodland, but is stringy and isolated when in open country. Later, just beyond the junction with the old road from Uxbridge, there is a fragment of artificial ground modelling between the tracks, which opens up a world of possibility of what to do with spare soil; yet it does not help us with our real problem, for the central verge here is forty-four feet wide, or about three times the accepted economic maximum.

Beyond High Wycombe we pass through a designed landscape of the eighteenth century, to which we have been introduced by the church folly above West Wycombe. The avenue planting west of the village totally destroys the superb environment; the climb to the cutting also is too even in its long section and should have a slight upward curve. After this the road passes across the Chilterns and we become aware of that landscape asset in which England is unique and which is beyond price: the changefulness of our island scenery. Soon after passing through chalk we enter the oolite field; the scenery changes again, and stone buildings and walls take the place of brick.

Oxford

The existing landscape for the new double track approach to Oxford was of course a gift to the landscape architect, but all the more honour to the surveyor and planning officers of the County Council that they have seized their opportunity and created a scenery of the highest order. The existing road has been cunningly interwoven to form one of the tracks, and the second has been routed on a sensible adjoining route, and not parallel (pl. 53). Existing trees are kept and now show their full splendour, and the existing hedgerow has been partly kept as an anti-dazzle screen. Details such as railings and rebuilt stone walls have all been carefully considered. I like particularly the signs, with their white lettering on a dark background. Perhaps most welcome of all is the feeling that this road organizes the landscape through which it passes; and whether it is historic building or modern school, the buildings as well as the natural landscape all have their part to play.

It is fitting that this journey across the south of England should end at Oxford, for Oxford is famed in road design for two reasons. It has the most beautiful street design in England, if not in the world; and it is the centre of the bloodiest battle that ever took place in the making of roads. I mean the battleground of Christ Church Meadow.

I have stressed in this tour the basic English genius for organization of space in landscape, and have illustrated this by examples of where this organizer is, so to speak, the road. But there are times, and the Christ Church landscape is one of them, when factors far beyond material values lift an existing landscape into the sublime. These are occasions when the planner and engineer must pause, relax, and allow themselves to be a lesser part of a great pattern and abstract idea. Then there is probably no problem that cannot be solved.

III

We must now return to sober reality, and in the light of the knowledge gained by the study of history and the experience of travel, see whether it is possible to establish a standard of design at least as good as what we have seen. For let me make it quite clear that the examples I have mentioned are so much the exception as to be almost the only ones of their kind in England. It is truly disturbing to think that with examples like this, with a trained natural genius for landscape to hand, and with the greatest programme of road design ahead that this country has ever known, there should be any doubt at all about the future of road landscape design.

First let me establish two maxims of great importance:

1. Safety and fatigue are concerned with the subconscious as much as with the conscious. The danger of the parallel straight line has been recognized. The evidence of experience and especially of the painters suggests that the faculties can be kept alert by well-composed light and shade, by colour, and by diversity of recession of foreground, middle, and far distance. If ill-composed, as with flicker, the same elements can cause eye distress and strain.
2. When the landscape of a road is agreeable to the traveller, it is also agreeable visually to the stationary observer from any part of the environment.

Let us now build our team.

Nearly all great work has emanated from the patron or originating authority, who must appreciate equally the value of the arts and sciences in the social as well as economic life of the community. He it is who must appoint the team, must allow time for preparation of designs, and must have a constant urge for excellence in detail as well as in the broad design.

The professional team consists primarily of the planner, the engineer, the landscape architect, and the architect. Each of

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these four members may have his own consultants, if desirable. The landscape architect may have his horticultural specialist, just as the architect may have his consulting engineer. Because of the personal and exacting nature of the work, and in the interests of variety, my own suggestion is that no landscape architect should be given more than ten miles of road at any one time. He should be accepted as a senior member of the team. I have already indicated that in principle the extra cost of landscape is the extra cost of the services of a professional, an infinitesimal one in relation to the works as a whole. Like a potter, he is applying brains rather than brawn to his material, and it is up to him to create life out of what to others would remain mere clay; in some cases, as we have seen at Park Royal, he may create new ideas out of absolute waste and often thereby save money.

Procedure

1. The planner determines the need and the route,
2. the engineer drafts the line,
3. the landscape architect adjusts the line as desirable in consultation,
4. the engineer drafts the levels,
5. the landscape architect adjusts the levels,
6. the engineer drafts the parallel boundaries, the bridges, and other elements,
7. the landscape architect re-examines the route to establish his organization of space on either side, and his possible sequence of pictures. He examines all existing features, whether natural objects or buildings, if they come within the sphere of his design. He examines the boundary line, field by field, to see how he can overcome parallelism (when he does not wish it) and build up his picture of a road passing through, rather than dividing, the native scenery. He obtains from the engineers an assessment, if any, of excess cut over fill,
8. he re-examines the engineer's plans to see if it is desirable or

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possible to alter the parallelism and the horizontal plane of the tracks.

The landscape architect, having reached agreement with the engineer, would produce a sketch design, probably based upon the following considerations:

1. *The horizontal curve*, now being accepted by the engineer as a necessity on account of fatigue, is probably also that curve which fits most harmoniously into our undulating landscape. It is accepted that economy and maintenance of space force these tracks as closely together as is compatible with safety.
2. *The vertical curve*, embracing also embankments and cuttings, is of equal importance. Perhaps the most descriptive word of any road is that it should be 'plastic' and never unyielding. The long section of a road rising from a valley to a cutting, for instance, should curve very slightly in sympathy with the ground over which it is passing. In the cross-section of embankments and cuttings sharp angles should be avoided if the surface is to be grassed; nature would do this herself in fifty years, and there is no reason why man should not do this soft and gentle modelling at once. When a cutting has a hard or outcrop surface, it may be left sharp as in nature. Actual excess of cut over fill is on the whole desirable, for it implies that the road is truly fitted into the landscape and enables the landscape architect to model his scenery, when and where he wishes. Such modelling and artificial grading may, incidentally, stop soil erosion.
3. *The fly-over bridges* are spaced very closely in England, and are the second of the economic reasons why the tracks cannot diverge too far one from the other. Bridges have two values in the landscape. They punctuate space; and by linking one side with another they help to unify the landscape. The example at Ashford is both logical in its position and a great asset in the art of landscape. When the fly-over is from the flat, great care should be taken with the approaches, which

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must be moulded by ground modelling, trees, and any other features, into the environment. The bridges should be light, simple, and justify the name of 'fly-over'.

4. *The organization of space* is the true and basic art of landscape. Each landscape architect will approach this according to his own way of thought. It is possible that each would in his mind's eye break down the road into a sequence of lengths between bridges, if they exist. After this he would assess the scale of the existing landscape, and how it is broken up, if at all, by trees and hedgerows and other features of the agricultural scenery. He might then endeavour further to break up the length of the road scenery into compartments or pictures that would integrate with this scenery. He would have all history to advise him on the unfolding perspectives of curved roads, but his spaces must be broader and simpler than those associated with horse-drawn traffic. At this juncture he will be brought to a dead stop by two factors which are paramount: *dazzle*, and the parallel boundary.
5. *Dazzle* is by far the most important unresolved factor of the modern road. I have no statistics, but I imagine that more than ten per cent. of all travelling is after dark. Night driving without *dazzle* is a pleasure and peculiarly safe; with *dazzle* it is both dangerous and exhausting. There are several ways of dealing with this, none entirely satisfactory. There is the very wide central space normally adopted by the Americans; there is the wide central space with a conglomeration of obstructions, such as we saw at Oxford; and there is the continuous screen, whether of planting, ground modelling, or building material. To my mind the Connecticut Turnpike is the nearest approach to a solution for this country. The arts of garden design in general, and of the Platonic Academy at Fiesole in particular, have shown that the most agreeable of landscape sensations is to perambulate a terrace whose one side abuts a retaining wall, and the other overlooks a view; this is the simplest of all methods of concentration on an

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object and it is somewhat akin to the view from a railway carriage. Both at Fiesole and in a railway train there is encouragement for contemplation, and we know how on a long drive we rely upon our subconscious to keep our faculties alert, and allow our mind to wander into agreeable subjects if the landscape is good; disagreeable if it is not. At the same time logic tells one that oncoming traffic is disagreeable and distracting by day as well as by night, and should be concealed. Our *objection* to a continuous screen is, firstly, the addition of another hard line to the landscape; secondly, because it visually cuts the landscape, which we are endeavouring to unite; and thirdly, because the surface may become just plain boring.

Some twenty years ago, at a meeting of the C.P.R.E. and the Roads Beautifying Association held at the Royal Horticultural Hall, I advocated the continuous screen of hedgerow planting. This brutal but logical proposal was received very properly with concern, but the reasoning was, I think, correct. In the light of experience, and because also the modern road is in constant curvature, let us see if we cannot solve this problem, working as it were from functionalism to amenity, and on the basis of Socratic argument.

- Q. You agree that when the tracks are close, the only possible screen is foliage, for it must react elastically to a car leaving the track in an emergency?
- Q. The height of this screen to be effective need be no more than five feet?
- Q. But continuity is oppressive and monotonous and therefore dangerous?
- Q. You agree that to counteract this with short openings is undesirable because of sudden dazzle, especially when there is continuous curvature?
- Q. Therefore that it is an essential part of safety in road design that the tracks be wide enough to allow of variation?
- Q. But how can it be reconciled with the fact that the

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tracks cannot be wider apart because of the frequency of bridges?

A. The tracks might gently diverge from the bridges to allow enough width in the centre to permit a variation of screen planting and the opening up of cross sight lines without dazzle. It would make the tracks friendly and agreeable in the landscape. They would indeed each acquire a personality of their own; which, like two threads of spaghetti anchored by a fork, would have diverged further and disastrously if left to themselves.

Q. Now this is a leading question: If through forces of economy and for other reasons the central strip had to remain equal and narrow, what would you advise?

A. I should advise a low tapestry hedge of a nature yet to be invented, continuous, and an extension as it were of the tracks and curbs. I should rely upon middle distance views of trees above this hedge to counteract monotony of skyline.

6. *The Parallel Boundary.* This is a much easier problem, for it is solely a question of someone taking trouble. Already the labour and time spent in land acquisition are so considerable that a little extra would be a drop in the ocean of time. The parallel boundary is generally the easiest to plan and negotiate with existing owners; but it is not necessarily the best use of land. When the existing field pattern is sliced and a harsh line imposed upon the agricultural pattern there are often odd shapes left over. Every known device should be employed to include these in the road verge pattern, for not only would the parallelism be broken on plan, but such features as spinneys could be formed. These are of great scenic value to the road, and have a double purpose of wind breaks and a form of planting for bird life essential to agriculture. A proposal once discussed at the joint informal committee of the C.P.R.E. and the Forestry Commission was how the disappearing hedgerow tree could reappear logically

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in a group of trees at the field corners, filling a space otherwise difficult to plough. Now and again and with the full knowledge of dislike of fallen leaves, I think the hedgerows and taller trees might sometimes creep as close as possible to the tracks.

No one minds the parallel fence if it is only seen in short lengths at a time, and often the small elegant concrete and wire agricultural fence, with strands rather than mesh, is a pretty addition to a landscape. The subconscious can enjoy a fence for animals just as it reacts against the fence that is unclimbable to man; probably, one supposes, it is something to do with love of power and liberty within us all. If we could solve the problem of the fence we could solve most of the landscape problems that confront us today; for the ha-ha, or sunk ditch of historic times, has yet found no reasonable counterpart in the modern world.

Planting. Our landscape architect will now sketch out his broad masses of planting, the tall, the medium, the eye level, and the low. He will bear in mind the swift-moving car and the coarseness of the road surface, and will avoid all flowers and plants that are at home only in a setting, such as a garden, that is tender. He will first plant for concealment of the unsightly, and then to draw attention to features such as the distant view or a good piece of architecture. He will plant for wind. He will plant against the low west sun; he will plant strategically for sound protection to adjoining property. He will weigh carefully the factor of the falling leaf, because he will know that if carried to its logical conclusion his roads will have no planting within a hundred yards. It goes without saying that he would study the species, the small or large leaf, the deciduous against the conifer whose needles fall vertically but which is often foreign to our countryside. He will beware of trees, such as the poplar, which delight to creep under roads and cause uplift; or the perfidious but lovely acacia which, like the elm, is likely to snap. And thus, slowly and

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gradually, he will build up his sequence of compositions, using the rich English materials as a painter uses his palette. Ultimately he works as an artist, based on feeling rather than intellect, and like an artist something of his feeling will pass into and beyond the eye of the beholder (pl. 52).

8. *Detail.* Just as in a good picture it is possible to isolate any one part and admire the excellence of detail, and to know that such detail if badly handled could mar the picture as a whole, so it is essential that the furniture of the modern road is well conceived. We have seen some good detail on our journey. Bridges, lay-bys, lamp standards, signs, bollards, fences, curbs, and so forth. Good slogging by the Council of Industrial Design, the Civic Trust, and others is gradually raising all these standards, which even so are still often deplorably low. The junction between bridge and agricultural road is a test of good landscape in itself. I have purposely not dealt here with petrol stations, cafés, and the like, for their placing is subject to the usual planning and landscape procedure and the execution is primarily the province of the architect; there is no excuse these days for either crudeness or sentimental slush. We are, however, very inexperienced and unimaginative in our use of the lay-by; the Americans, for instance, propose a really agreeable pull-off every twenty miles or so. Such static road landscape, including the modern conception of a car view terrace, is as yet almost entirely unstudied.
9. *Execution.* Nor do I want here to discuss how landscape works are executed. Modern technique has been revolutionized and it is possible, for example, to turf and maintain embankments, or to transplant large trees, in a way that can make a road look matured almost on completion. The primary matter of importance, however, is to separate the mechanical works from the landscape works, for the latter still require a craftsman's personal execution.

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In conclusion, I want to stress one factor only. No rules or guidance in themselves ever produced a work of art. The professional trained in the arts is the only one ultimately competent to design a landscape as a painter paints a picture. Within himself lies the mystery of his art, and even he does not understand the gusts of emotion that may sweep him in the process of design. Provided he has his technique completely at his finger tips, it is possible for him to cut across all accepted rules, and that is what we want in this art today. The great profession of civil engineers is courageous and audacious within its own field of physical works. We can be equally audacious in the arts. May the years before us bring forth a collaboration and a consequent scenery that will make the man on the road murmur to himself, '*It's good to be alive*'.

VII

Scale, Diversity, and Space

IN an article in the *Sunday Times** entitled 'The Goal of Fulfilment', Sir Julian Huxley wrote: 'We must combat everything that threatens the variety of interest needed for human fulfilment—the extermination of wild life, over-mechanization, the boredom of mass-production and conformity, the spoiling of natural beauty, the destruction of cultural traditions.' Huxley is primarily a biologist, and his statement was not made in terms of art but of science. Modern civilization is in fact tending to produce an environment that is contrary to the natural condition of man and therefore against his ultimate happiness and welfare. This essay is directed towards a study of diversity, which is in fact no more than the preservation in the landscape of individual human scale. With this in mind we will study a recreational landscape now in the making, and thereafter explore the problem of how to engender emotion through the arts. For these later parts we will observe the artificial landscape firstly through the eye of the painter in history, and then through that of the modern painter. The modern world is fortunate in having at least two renowned painters who are practising landscape architecture: Victor Pasmore in this country, and Roberto Burle Marx in Brazil.

It might well be argued that with the country cluttered with road signs, pylons, advertisements, speculative building, and so forth, what was required was not variety but order. During the last two decades the urge for order was so strong as to create a

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central authority, called at the time the Ministry of Town and Country Planning, charged with the primary purpose of preventing disorderly development. Outside the scope of the Ministry, but parallel to the development of landscape, another problem began to impinge itself upon those conscious of landscape: the problem of scale. Mechanization tends to call for standardization, or sameness of the parts, and these parts coalescing rapidly become something that is monstrous in scale. Not only can a building be built at a fraction of the cost of hand labour of historic times, but the builder owner has a more imposing, more efficient, and more economic structure if it is built in one unit rather than a multitude of units. To the beholder, the effect of this upon the landscape is somewhat similar to that of a military square in past history. The efficiency of the square depended upon an imposing number of dumb units, but today the units of the army are no longer dumb, and it is of interest that in modern warfare they are in fact separated into individual thinking machines, diversified, and finally consumed in the landscape.

Great factories, power houses, office blocks, motor roads, all now are increasing in scale and must be accepted as part of the modern scene. Any country which tried to reverse the trend would be committing economic suicide, but we can establish the fact that to all except a very few specialists these objects are a means to an end and not an end in themselves. That end, the good life, has only altered in degree in the course of history. It is, quite simply, the expression and fulfilment of the individual.

Ruskin Drive is the name given to the principal open-air recreation centre of a firm of manufacturers in the north of England. The firm, with 14,000 employees in this one town alone, is the largest privately-owned business in Europe. The employees are skilled craftsmen working within the framework of what are

essentially methods of mass production. Each employee contributes about twopence a week to the central recreation club, and it is estimated that about two thousand were active users of Ruskin Drive before the present alterations and additions. The individual clubs composing Ruskin Drive are as follows: Archery, Badminton, Bowls, Cricket, Football (Association), Football (Rugby League), Football (Rugby Union), Harriers and Athletic, Horticulture, Hockey, Judo, Netball, Rifle, Rounders, Table Tennis, Tennis.

The site lies only a short distance from the centre of one of those industrial towns which today are encircled with the grim waste tips of past generations. These vast upheavals are now being planted, and in time will form a splendid scenic background; but in the meantime they are depressing to the spirit and the tendency is for parks and playgrounds within the town to convey a sense of isolation from environment. The total area of the site is something under forty acres, divided by an open canal with a sufficient number of good trees to break up the views; the existing pavilions vary in style according to their date, and the green of playing fields is enhanced by flowers and shrubberies and the bright costumes of the players. The north side has already been developed, but is now to be fully modernized, and the additions of two rugby pitches and a running track up to international standards are being completed on the south side to take the place of existing allotments. In 1955 a block plan was commissioned which would lay down the principles of development over a period of five years, the ultimate cost now being estimated at about £150,000 (fig. 9).

One might have expected, for the large sum of money involved, a majestically symmetrical building whose dignity would enhance the prestige of the employers; and playing fields whose specialized purpose would dominate the ground pattern. Instead there is apparent confusion of small pavilions set among grass and trees which carry us to the ancient Chinese scenery where the buildings were always subsidiary to the landscape. In short,

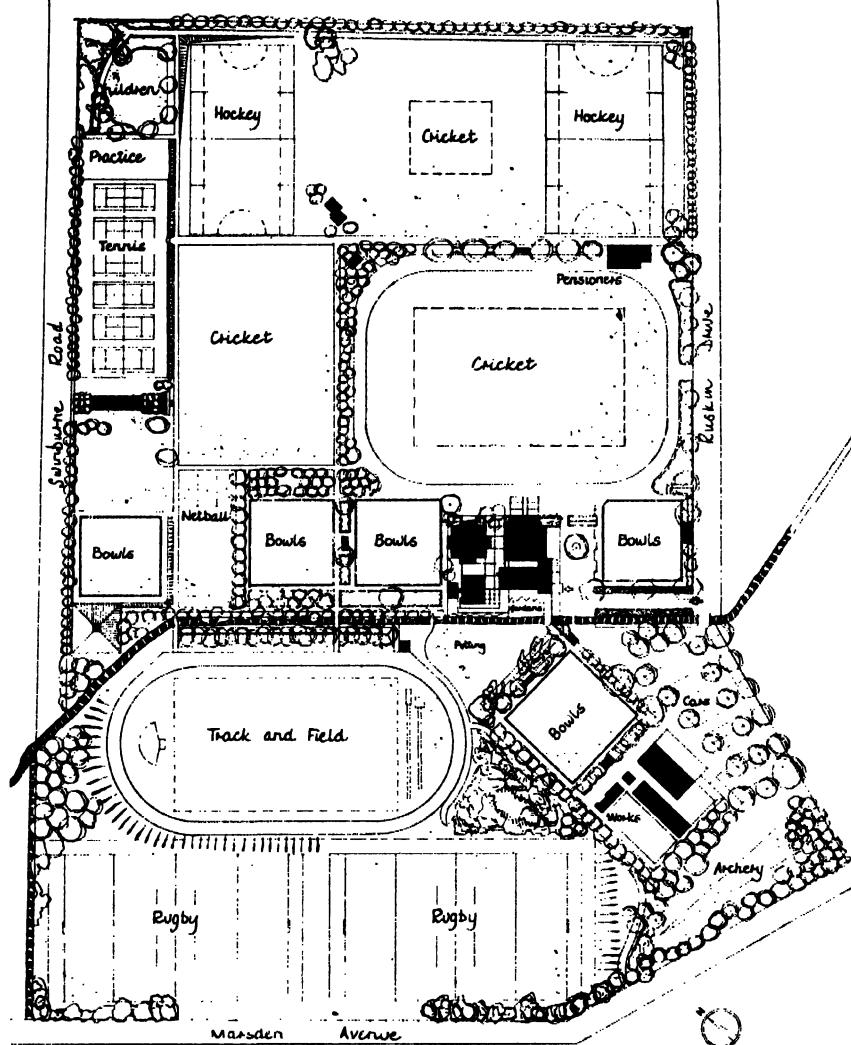


FIG. 9. Ruskin Drive Recreation Club, St. Helens. Drawn by D. J. Connelly

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the scale is small and related to trees, the area is a landscape for all, and not merely for specialized physical exercise; and it is one in which each member, however inactive, will feel himself a person of consequence. It is the work of the landscape architect to recognize the basic social requirements and thereafter to develop them continually with all the arts of landscape at his disposal.

The clubs are broadly divided between those of summer and winter, but for purposes of landscape design the summer conditions are overwhelmingly the more important. It was found that for practical reasons the majority of clubs could best be based upon a central group of buildings; but there were exceptions. The Tennis Club wished for autonomy, the Pensioners desired to be detached, and two cricket clubs required their own shelter pavilions. In addition there was to be a children's play area and a groundsmen's works area, both remote from the central group. The existing club room and cricket pavilion (correctly facing north-east) and the existing changing rooms were too substantial to demolish, even if this were desirable; and it was inevitable that the considerable new club room should be sited behind the old pavilion to face south towards and not away from the sun. The works area which had previously been at the rear was transferred to a redundant bowling green, the turf of which becomes a turf nursery. The placing of the new pitches was geometrically inevitable.

It is at this point that the landscape architect pauses to consider quite objectively the underlying idea behind this project. The process of analysis is as follows:

1. The pattern is primarily one of a diversity of clubs, formed for a specific purpose.
2. But these clubs are part of a larger scene whose purpose is very much wider than that of the playing of games, namely to comprehend and bring together agreeably and equally as many individuals as possible.

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3. The landscape pattern arising from this would appear to be a basic geometry representing the clubs and their playing fields interspersed into a scene that is near to nature, apparently informal, and yet a comprehensive whole.
4. The core of the pattern is the club house and its particular landscape where all can meet. This is a kind of inner precinct, a Chinese box of landscape within another box.
5. From this he will quickly assess the qualities of the existing landscape that should either be emphasized or suppressed. Generally speaking, the environment of houses is excluded, but a view across adjoining open land is encouraged as an extension in space. The canal sets the geometric pattern and must be idealized from what is really no more than a useful drain. The buildings to be retained acquire a historic flavour. The pattern of trees and grass on the north side remains unchanged, but the flowers are moved into the precinct.

After this analysis the landscape architect has nothing more to do except, to quote Wagner, 'to write the music'. In the interests of diversity he appoints separate individuals to design the separate pavilions, having given guidance to their value in the landscape. He will weigh carefully the functional requirements of the playing fields, especially the racing tracks, to see that they do not come out of their context as part of the whole. The long embankment for spectators is modelled as part of a designed landscape of shapes, of which one end is a pyramid of ground with a folly, and another an artificial hill; all these elements introduced with the intent of breaking up the flatness throughout. Symbolic of this is the undulating surface of the miniature golf course, bringing unobtrusively the idea of games into the precinct. The bridges across the canal are in elegant reinforced concrete, slightly curved, and thereby evocative; the pattern on the approach drive (though you are not necessarily to know it) is one of a cricket ball for ever whistling through

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the air to strike the stumps; the colour on doors and windows throughout is bright to catch the eye especially in winter, when the landscape is dreary; the incidents include a concrete climbing sculpture for children, as invented by the Swedes.

Now, to the landscape architect the whole of these matters are subsidiary to the one overwhelming thought: has he engendered a lasting emotion through his art? Very probably he has not, or at least only that arising automatically from any agreeable environment. To engender an emotion other than a happy love of life is a more difficult task than in the allied art of painting, when the materials are more tractable. A beholder of a painting cannot walk inside it physically and thus create difficulties by forming part of it himself. A painting does not change with the seasons, nor is it subject to a hundred different hands in execution. It has no environment, for it is framed and to all intents and purposes isolated from its neighbour. There is only one viewpoint. Nevertheless, and because of simplification, it is the arts of painting that without doubt point the way today to landscape, as in fact they did in the eighteenth century. Nowhere else can we study so well the value of the abstract idea, the organization of space, and the constant subservience of the detail to the whole. Let us then plunge into the world of the painter, first into history, and then today.

II

Once again the most fruitful of all historical landscape studies to the Englishman is undoubtedly the mainland of Venice. The position of Venice as a world power and the centre of great trade routes gave her a liberality of view wider than that of her sister states in Italy. The scenery enforced an acute perception both in colour and form, and this created an abundant demand for the arts. It has been said that except for nineteenth-century Paris no city in the world has ever been so prolific in its output of painters. In landscape, the painters spanned from the pre-

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dominantly religious landscape to the liberal landscape that is the starting-point of the modern way of thought. The backgrounds of Giorgione have been accepted as the basis of the English School of Landscape Painting and, in combination with the geometry of Palladio, were the genesis of eighteenth-century English landscape. But generally, of the early painters, Giovanni Bellini is the more valuable to ourselves today. Of the later painters, including Titian, Paul Veronese, Bassano, Crivelli, Sestris, and Tintoretto, it is the latter who carries our study in history to the furthermost limit.

Giovanni Bellini (1430–1516) was the son of a famous painter, Jacopo Bellini, and the brother of Gentile. He was thus brought up in an environment of painting. His output during his long life was both overwhelming and many-sided, and he directly influenced not only his pupils, Giorgione and Titian, but the whole of Venetian painting. The picture that has been chosen for detailed analysis is the 'Earthly Paradise or Allegory of the Progress of the Soul' (pl. 16), probably painted between 1480 and 1490. I have twice referred to this ('The Italian Garden of the Renaissance', page 4, and again in 'The Search for a Paradise Garden', page 30) and to me it remains the most moving of all landscape paintings. But our purpose now is to analyse the technical skill behind this work and see if it can help us in our particular studies today of scale and diversity. For there is in this picture undoubtedly diversity and a play on change of scale that is contained within a harmonious whole. Such organization of space (as opposed to the creation of space) is the ambition, in one form or another, of every landscape architect.

The accomplishment of Bellini is the more easily appreciated and understood if we consider three previous stages of development. The elements of the composition appear to be in 'The Blood of the Redeemer' in the National Gallery: the pattern on the floor, the solid balustrade, and on beyond an exciting landscape of rounded hills and little towns; but the background is backcloth only. The next stage is the 'Coronation of the Virgin'

in the Museo Civico, Pesaro, c. 1475, where an architectural frame separates foreground figures from landscape background, but nevertheless both foreground and distance appear as one space. The third painting is the 'St. Francis Receiving the Stigmata' in the Frick Collection, New York. Here all suggestion of a frame has disappeared and we are on the threshold of pure landscape. It is an exquisite scene of rocks, distant buildings, and nature in tranquillity. The perception of nature is such that it may leave many of us somewhat ashamed at how little we observe in detail the world around us. Indeed, if we did so observe, we might never be worried by the problem of diversity. But the merit of this painting, and others like it, lies once again in the wholeness of the conception. The human figure, the rocks, the buildings, even the elegant and contrasting trellis, are not only sculptural, but related one to another. It is clear from this picture that if Giorgione in his gracious rounded forms gave rise to an art that inspired the English eighteenth century, then Bellini was the predecessor of that direct line through Poussin and Cézanne to the present day. Of the 'Earthly Paradise or the Allegory of the Soul' Sir Philip Hendy writes: 'It is much more than a landscape in its content, for it illustrates concisely the main substance of a long mediaeval poem. Yet the symbolic incidents in the story are melted in the beauty of the atmosphere, they only give point to the richly poetic mood which is induced by the union of earth and air and water, of colour, light and form. This is the very first of those landscape idylls for which Venice was to become famous. Its gentleness and its lyrical quality hide from us the precision of the distances and the underlying firmness of all the forms. . . .'

The composition is simple: a paved court set openly in a broken landscape. The symmetrical court is reminiscent of the aims of Perugino and Raphael which ultimately found their fulfilment in the Villa Lante. But there is a change in values: while it may be said that Raphael was perhaps the greatest master of all of the composition of objects in space, his compositions were

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in fact primarily geometrical and finite. The preoccupation of civilization since that date has been the balance between the biological and mathematical sciences, the degree of preoccupation being expressed in the art of each successive period. It is Bellini who connects the old world with the new, and it is significant also that within his lifetime the subject matter of painting changes primarily from religion to one of love for the world and consequently for nature. His portrait of Doge Leonardo Loredano in the National Gallery, London, is one of the most humane of studies, and almost his last work jointly with Titian was the sensuous and delicious 'Feast of the Gods', in the National Gallery of Art in Washington.

The site chosen for his architectural court is of course superb, and we can easily recognize also the masterliness of the architecture itself; the floor pattern, the proportions of the balustrades (the openings of which are a double square), the lovely classical throne upon which sits the Madonna. The composition of the figures and the several parts is precise. But the art of the painter is much more complex than either this or the mastery in the description of the surrounding scenery. Let us see if we can build up a number of unsuspected points and thereafter endeavour to draw conclusions as to how they might help us today.

1. The floor pattern is not only beautiful in itself; it is related to, and draws into the foreground (by colour as well as form) the interspersed buildings in the distance.
2. The balustrade interlocks foreground and middle distance.
3. The Madonna's throne, the only rich element of architectural detail, links the human figures to the geometric foreground.
4. We then realize that the foreground figures are too small in scale for the balustrade, which is severely plain and nearly four feet in height; whereas in the background the distant figures are well over life size. Note the two-foot-high fence

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near the cross, and how the figure in the cave is unduly cramped. The distant standing couple is almost heroic.

The above four points together tell a remarkable story in scale and diversity. The human figure throughout the picture is constant in scale and continuous in the relation of one figure to another. The scale of the background has been deliberately reduced; the scale of the architectural foreground deliberately enlarged. Why should this be so?

We have to consider the story and the emotion that Bellini intended to convey. Until quite recently natural scenery had been a source of fear, and the artist had conveyed this sense of fear and awe by exaggeration of size; now, however, there was emerging the first feeling that in fact man could come to terms with, and even master, his environment. A friendliness is suggested by a scale smaller than that of the human being. In the same way, sculpture smaller in scale than the human being becomes cosy and ultimately becomes the cherished doll. On the other hand, sculpture which is above human scale becomes heroic, remote, and suggestive of a world beyond our own. The steps to the throne, for instance, are nearly nine inches high and remind us of the heroic steps to the Parthenon at Athens. It is in this way that the artist has contrasted the sublime world of order (the foreground) with that of disorder (the background), and linked the two by the human being.

The interlocking of form and the significance given to a distant view by the foreground are well-known techniques of landscape of any age. But in the modern world, of what use is this analysis of scale when the landscape is no longer sublime and when the human scale is disrupted by a work of such dimensions as to appear not heroic, but rather monstrous? It is impossible to accept that a general solution lies in reversing the processes of scale adopted by Bellini: increasing the stature of our human landscape, and decreasing that of our machine buildings. The disparity of the natural and the machine scale is

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becoming so great (and is still increasing) that treatment by illusion seems possible to a limited extent only. The hedgerow trees between Berkeley and the nuclear power station, for instance, confuse the issue temporarily, but do not prevent the final domination of the Severn Valley. We must accept instead that the 'Earthly Paradise' of Bellini has passed from us for ever, and that we shall find more consolation in that of ancient Persia. For the Persian garden was a walled precinct set against the huge scale of the desert, a kind of sanctuary for man and plant. The conclusion would seem to be that if man is to remain true to himself, he must first ensure his own scale in his personal environment. The scale of his home, his garden, his recreational club, should all remain small and diverse; and from the scene the great scale of the productive world should be excluded by every art of planning and landscape.

III

Let us now consider Tintoretto, of whom Hans Tietze wrote as the last sentence of the introduction to his book: 'Tintoretto is a modern artist, clothed in the garb of Classic Art.'

Tintoretto (1518-94) was born in Venice two years after the death of Bellini. For a short time he was a pupil of Titian and was later influenced by contemporary Venetian painters such as Paul Veronese. He made innumerable studies of Michelangelo casts, and built his own figure groupings from small models which he composed in three dimensions. His inventiveness and output were prodigious, and in feeding this urge for expression by somewhat sharp practice in obtaining commissions, he seems to have fallen into some disrepute with his colleagues in Venice. Although he had some influence upon the development of baroque, he appears to have had little on the future of painting with the single exception of El Greco. He was not well thought of by nineteenth-century critics, and it is only recently that his significance in regard to space design is beginning to be appreciated.

There are three distinct periods in Tintoretto's own development, and these may be observed most clearly in his frequent studies for the 'Last Supper'. The first of these (San Marcuola, Venice), painted in 1547, is a variation of the conventional scene of which the most famous is that of Leonardo da Vinci. The second (San Trovaro, Venice), painted about 1560, shows a disintegration of form that is both disturbing and enjoyable to ourselves today. The third (San Giorgio Maggiore) was painted at the end of his life; it shows the additional element of what must be closely allied to surrealism, the emotion of the mind finding its response not only in the disintegration of form, but in the introduction of visions into what is otherwise a rational and realistic science. It is the middle period that is of most interest as landscape architecture, for the drawing is meticulously realistic and the contribution to art stands or falls upon the same factors that apply to architecture and landscape.

'Susannah and the Elders' (pl. 17) was painted probably just before 1560, and must surely be one of the most entrancing garden scenes in existence. A complete revolution of form and idea has taken place since the 'Earthly Paradise' was painted eighty years previously. It is gay and sensuous. Such a conception of landscape could not have been achieved at a moment's notice, and we can in fact follow the steps in previous paintings. The revolution since the culmination under Raphael is of course one from static to dynamic environment; with the knowledge of the forces of the world upon us it is unlikely that we shall ever again obtain that repose and sense of fulfilment that had reached its climax in Italy about the time of the birth of Tintoretto. The ordered equilibrium of the High Renaissance might well have survived under the conditions of a Chinese civilization, but could never permanently satisfy the exploring mind of the western. The first impact upon Venetian critics of a new way of thought appears to have been the 'St. Mark Rescuing a Slave' (Accademia, Venice) painted in 1548. This picture is transitional between the 'Earthly Paradise' and

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'Susannah', in which elements of both can be seen; it is, as it were, the fulcrum or point of balance between two opposed ideas.

We know that Tintoretto made models of his groups of figures, and it is interesting to imagine one for the Susannah. The basic pattern (fig. 10) is revealing in the simplicity of the structure. It is instructive that in order to conceive of these forms as being in equilibrium we must regard Susannah as sculpture and immobile, whereas the Elders can move about the structure as they will. From this pattern we can build up the basis of a landscape design that surely cannot fail to have universal appeal.

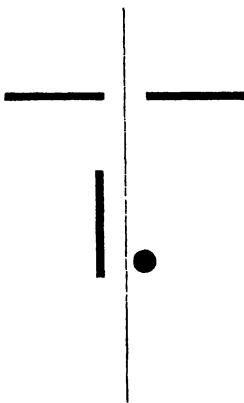


FIG. 10. Diagram of
'Susannah and the Elders'

1. The heart of the composition is the union of Susannah and the green screen. The one is in every way a foil to the other, in form, light, texture, and purpose; and how beautifully they are united by towel, ornaments, and mirror.
2. Susannah is supported and stabilized by her tree, and thereafter the spaces flow round the screens. It is these screens that are of intense interest, because without them the spaces would lose their significance and not be spaces at all.
3. The eye of the beholder is invited to pass easily over obstructions across the path and so out of the picture, whereas the physical body cannot easily do the same.
4. In the painting there are two scales: that crossing the foreground, and that of the distance, the two being linked by the screen. In reality there is no play upon change of scale, as in the 'Allegory'; the second Elder, for instance, being harmonious with the caryatid, which properly tends to be heroic. The difference is one of perspective only.

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5. There is intense interest from incidents based on the most minute perception, supplied as it were free of charge as a gift from nature.

The conclusions in landscape design we can now draw from this painting are most revealing. Tintoretto has changed the idea of a precinct that is finite. His spaces run into infinity; it is as though he had placed his basic structure upon a whole country patterned in its most idyllic form. He has in fact made the imagination do much of his work, for on its own the imagination can fill whole realms of space, once it has been triggered. In this Tintoretto suggests to us two things in the manipulation of space: the pattern of screens, or eye obstructions, can be related one to another by what might best be described as abstract design, rather than by firm geometry; and greater play for the travel of the mind is given if there is less competition with the possibilities of physical travel also.

In the overcrowded world today it seems quite possible to consider more use of the imagination as one way of satisfying our urge for solitary spaces, when in fact such spaces no longer exist. Behind the hill in Asplund's crematorium (pl. 37) lies all the paraphernalia of the modern industrial world. But it is concealed. So it would seem to be possible to plan great spaces in a small area; and it is to the later years of Tintoretto, I think, that we owe some of the earliest explorations into this phenomenon of space. Because of this, and because of the charm and mastery of execution, I suggest that this picture can help us as much as any painted before the present century.

IV

Probably the greatest single preoccupation of the modern artist is the space-time conception of art, and it is certainly that which is having most influence on landscape architecture. Just as the scientists have pushed their knowledge of the space around us to

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distances beyond the comprehension of the layman, and have formulated a space-time concept that is unintelligible except to the initiated, so are artists endeavouring to do the same in a revolution which first appeared so explosively with cubism. Cubism was the endeavour to introduce the fourth dimension into Euclid, whose laws were three-dimensional, finite, and no longer satisfactory to the inquiring mind. It was only to be expected that this art should be unintelligible and often repellent to the layman, who had never before beheld a picture other than three-dimensional and representative of a moment in time. Nevertheless the urge that placed different facets of a face as seen at different times into one plane on canvas, was of the utmost significance to the future of all the arts including landscape. The artist is penetrating into fields as remote as the scientist, and like the scientist is overwhelmed by the infinity of his boundaries.

The early work of Victor Pasmore is shown in a Penguin book, and it is interesting to observe how he has since left the literary influence of comparatively naturalistic painting, to probe into this matter of the fourth dimension. His work is therefore particularly interesting to architects: he is, incidentally, the only English painter to become absorbed in town and landscape planning, for he is an advisory consultant to the new town of Peterlee. His philosophy is centred on the fact that while the flat plane of a canvas can create a third dimension by illusion, experience has shown that it is asking too much of it to create a fourth. He has experimented with the three-dimensional plane on canvas in a way that has reminded architects of the solids of town building, but he feels by instinct that the art of the fourth dimension belongs properly to architecture and landscape, which already begin with only one dimension less in reality. It is only in these arts that movement can be introduced, for basically it is movement that represents the dimension of time. To Victor Pasmore, movement means the constant movement of people in and around his architectural forms; and these forms are so organized that their relation one to another heightens this sense

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of flow of people. Such a conception of architecture is diametrically opposite to that of the Renaissance, whose objective was to stabilize and immobilize. It is interesting to know that even when his work is flat on canvas, Pasmore walks in imagination round the spaces between his forms, the space between forms being as important as the forms themselves.

Plate 58 is at first glance nothing more than a delightful pattern enjoyable to the senses. We know it affects our subconscious, but what most of us would not know is that within these simple forms lies a profound endeavour to identify ourselves with the space-time concept of the modern world. To my mind, this conception is a direct descendant of the 'Susannah and the Elders' (pl. 17), upon which was later built all the delights which capture the senses. The straight linear forms are like screens and impress themselves as such upon the mind. The curves are in movement round the screens and the movement has been hastened by the juxtaposition of the screens. We can well carry this symbolism further still, and assume the outer circle to represent the furthest limits of human penetration into space, with infinity lying beyond.

With his practical experience, no one is more aware than Pasmore of the difficulties of interpreting this majestic way of thought into reality. In sculpture he would like to see persons passing around and *through* the forms, rather in the manner of children's concrete climbing sculpture in Sweden. In town and neighbourhood planning, such fluidity is almost impossible to achieve on account of a natural and conservative way of life, of dustbins and the like, and of economy. Essentially such a conception belongs to the heroic. We see something of it at Vällingby in Sweden, but more still in the monumental work of such architects as Mies Van de Rohe. It would appear to indicate the essential one-ness of architectural and landscape design. We now have many examples of screens, which may be translated into slab or tower architecture, but we have few interesting examples of the free juxtaposition of one to another, and we

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have still less of any that give a sense of motion in between. Without this contrasting sense of motion, which is in fact the fourth dimension, modern architecture becomes inert and dreary. The ablest exponent of such landscape is probably the painter, Burle Marx, who works mainly in Brazil (fig. 11).

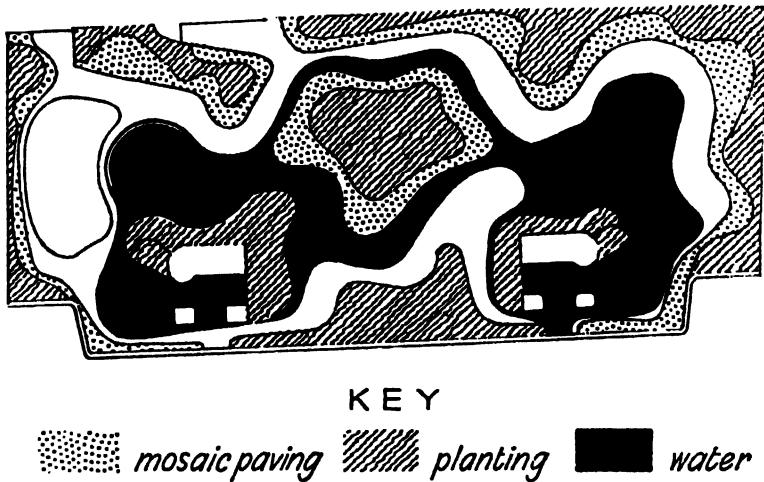


FIG. 11. Garden by Roberto Burle Marx reproduced from *Garden Design* by Sylvia Crowe (*Country Life*)

Of Roberto Burle Marx I wrote the following introduction to an exhibition of his work in 1956 in the Institute of Contemporary Arts:

There can be no doubt that in the works of Burle Marx we are confronted with an approach to landscape design which is quite fresh and whose emotional quality is peculiarly genial to the modern mind. In any analysis of such an art it is always interesting first to try and establish a relationship to the other similar arts of the world irrespective of time and place. The landscape arts, broadly, derive from four sources: the enclosed gardens of Persia, the classical gardens of Europe, the Far-Eastern landscapes, and the English garden of all kinds springing from the English School of Landscape Gardening. Of these historic arts, the two that are apparently most sympathetic are probably those of Persia (through climate and history) and Japan (through association of ideas); and the art that has provided the most technical experience undoubtedly the English school in

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all its manifestations from the flowing lines of Repton to the indigenous planting of Robinson. In fact, all these arts seem to have combined to provide the parentage of a healthy young offspring, born in a part of the world where such a birth is due.

If it were wise, or even possible, to describe the Burle Marx gardens in one word, such as static, organic, and the like, I should imagine the basic word would be 'motion'. By an odd flight of the imagination one's mind then leaps for kinship to the superficially very different art of baroque, to the 'tremulous curves and shifting motions of water'; and Burle Marx himself says 'on the Reseguros roof gardens, looking across the Guanchra Bay to the baroque forms of the mountains in the State of Rio, I reproduced analogical forms on the ground. . . .' There is the same sense of the organization of space and the relationship of near and distant parts, in which the baroque artists were supreme. There is a similar all-pervading sense of movement, but whereas in baroque the architecture was also in motion, in the art of Burle Marx the architecture is essentially static and a foil. Within this grand idea lies intense appreciation of modern abstract art on the one hand, and on the other a genuine affection for the indigenous plants of the country which he incorporates in his painting with such incomparable skill. Essentially the gardens are not naturalistic, as we understand the word.

It is possible that the peculiar pleasure given by these gardens comes from a new set of emotions and reactions arising primarily from air travel, and secondarily from swift road travel. During these times we are receiving fresh impressions when we are most receptive. His water curves with their crisp line of definition are analogous to coast-line curves seen from the air, rather than land-locked lakes seen from the ground; the imposition of one pattern upon another is like the passage of cloud shadows over the landscape; where possible, as in the design for the S. Paolo exhibition and indeed in gardens under and over buildings, he resorts to different planes, so that a moving view from above, when it is possible, is entrancing. Here may be a clue to the departure from precedent, for certainly these gardens are designed for people themselves in motion. It is not only that the lines of the gardens are rhythmic in themselves, but they seem to be so partly in response to movement in the beholder, a symptom of the restless energy of the age in which we live.

V

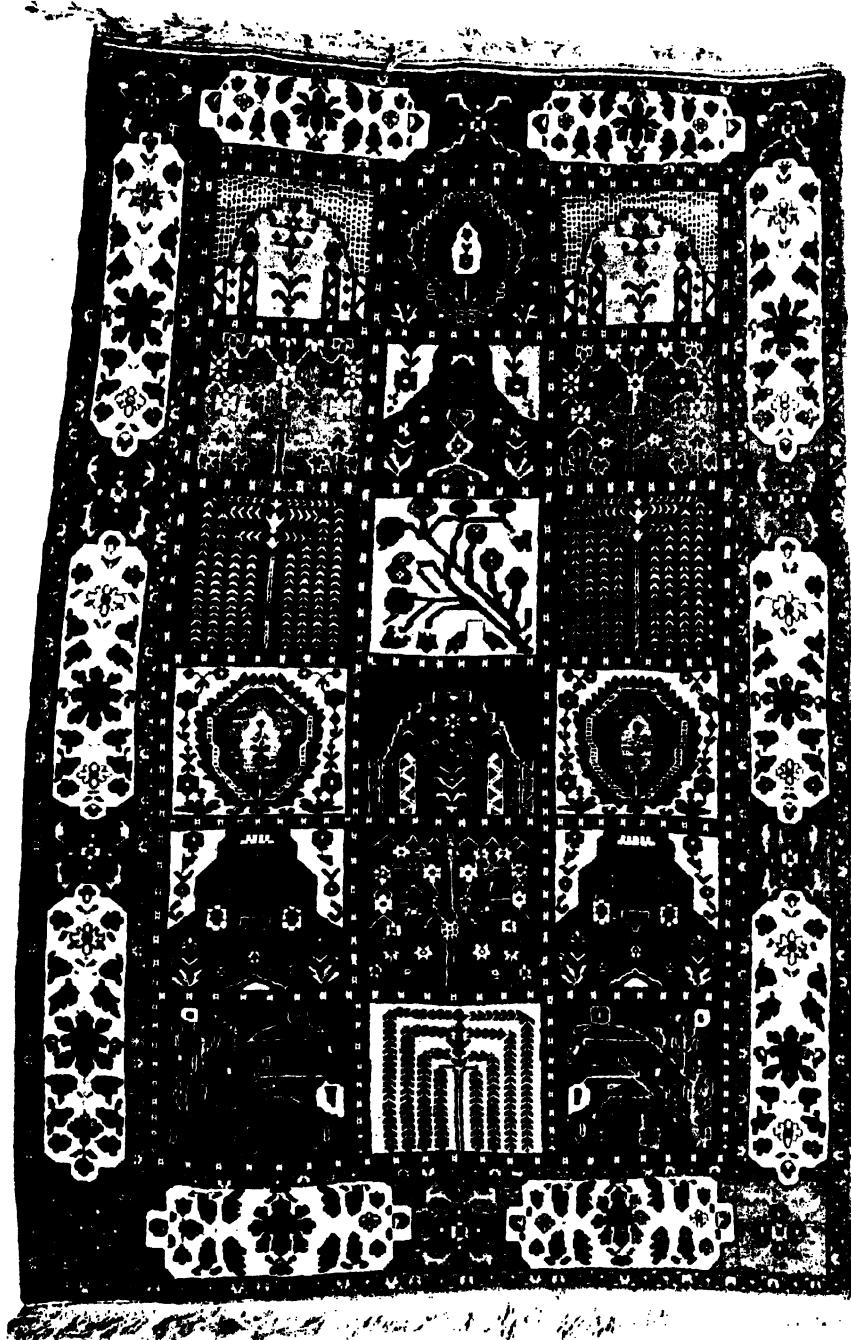
We have apparently wandered far from the subject of this study, which was an analysis of the very practical and material-

Scale, Diversity, and Space

istic design for the playing fields known as Ruskin Drive. Before we conclude, however, we must pause to reflect on the work of Paul Klee, whose direct influence on landscape may possibly exceed that of any other modern painter, not excluding Picasso. As an artist Klee is peculiarly deceptive, but let no one critical of the arts be deterred by the apparent childishness of his scribbles and patterns. In his struggle to obtain a hold upon feeling, Klee is almost contemptuous of the predominance of intellect in the modern world. The appeal to the subconscious is paramount.

An example of his work which has had some influence on the Ruskin Drive design is the 'Scene from a Hoffmann-like Tale', 1921 (pl. 59). Here in fact the painter has superimposed one idea upon another, diversity upon space; and here above all is the sense of friendliness, warmth, and unity that Huxley must have had in mind when he wrote the article quoted at the beginning of this study.

PLATES



Victoria & Albert Museum--Crown Copyright
1. Persian carpet: Garden Pattern (17th-18th century)



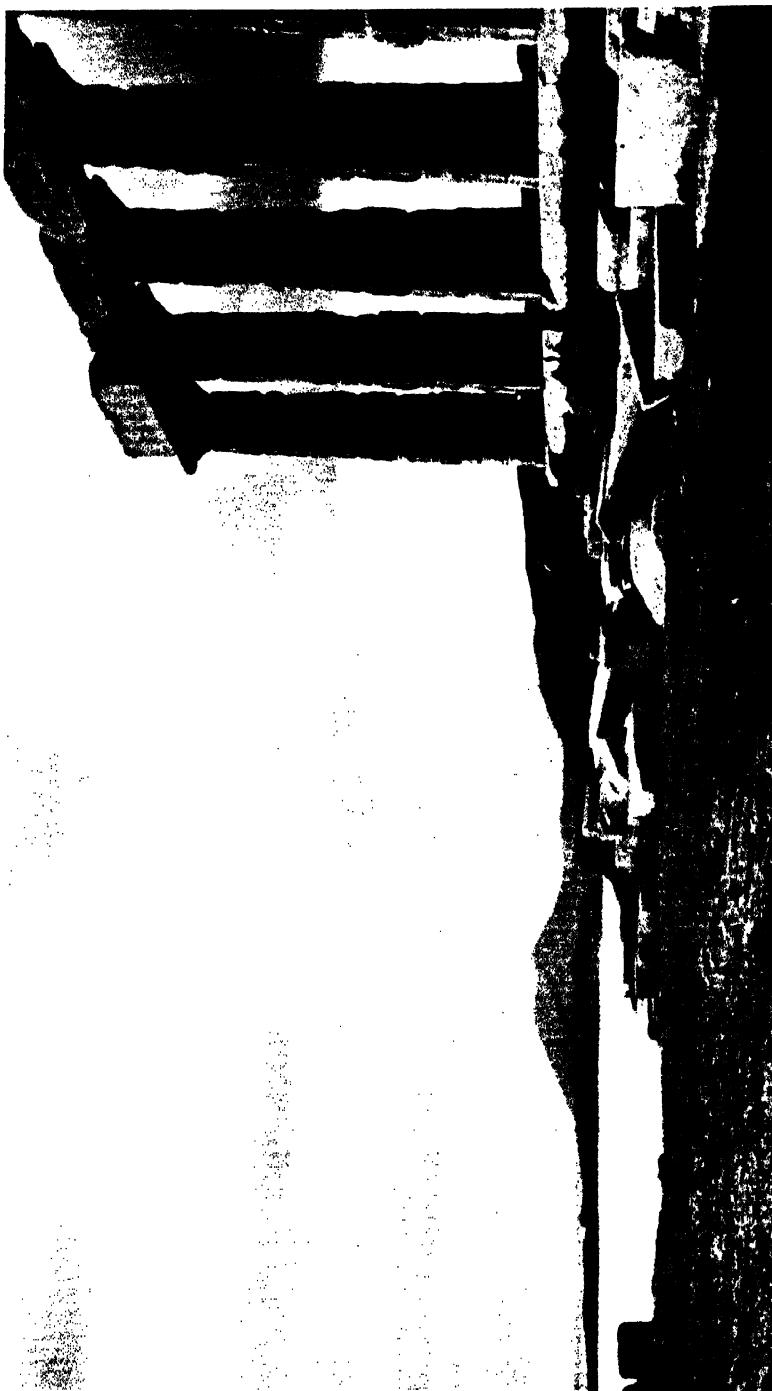
British Museum

2. Chinese painting: Palace by a River (after Li Ssu-Hsun)



British Museum

3. Chinese painting: Landscape (attributed to T'ung Ch'i-ch'ang)



4. Sunion: Temple of Poseidon



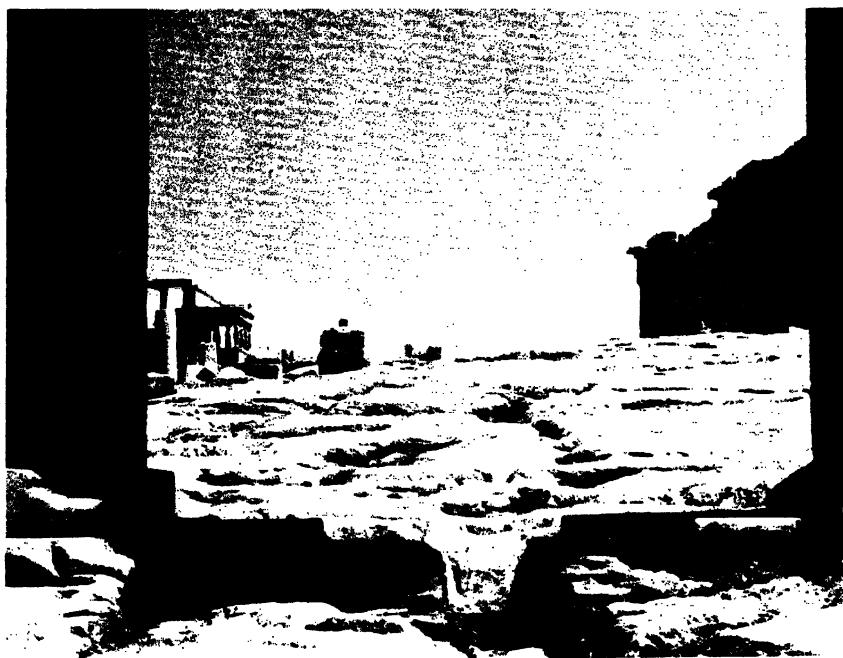
5. Delphi: the Sacred Way



6. The Acropolis from the south-west



7a. The Acropolis: the Sacred Way



7b. The Parthenon and Erechtheion from the Propylea

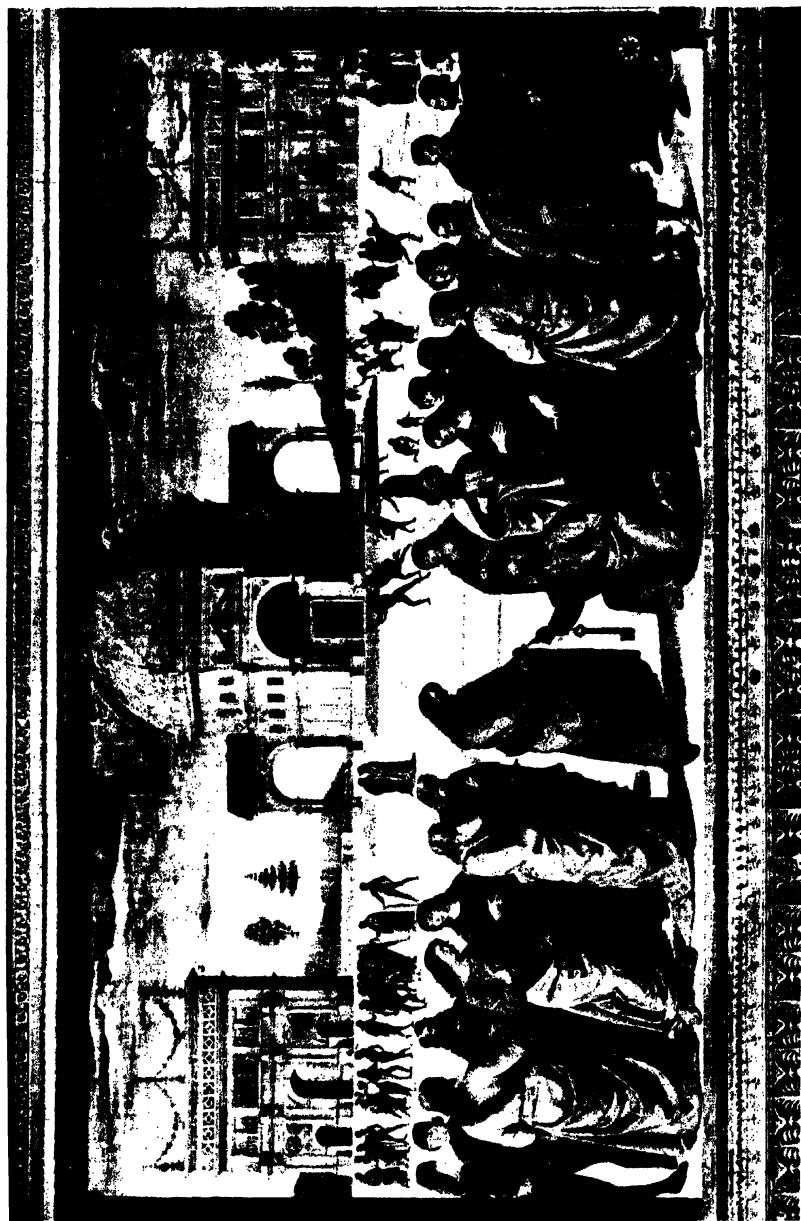
87. The Temple of Athene Nike from the Propylea

88. The Erechtheion from the Parthenon



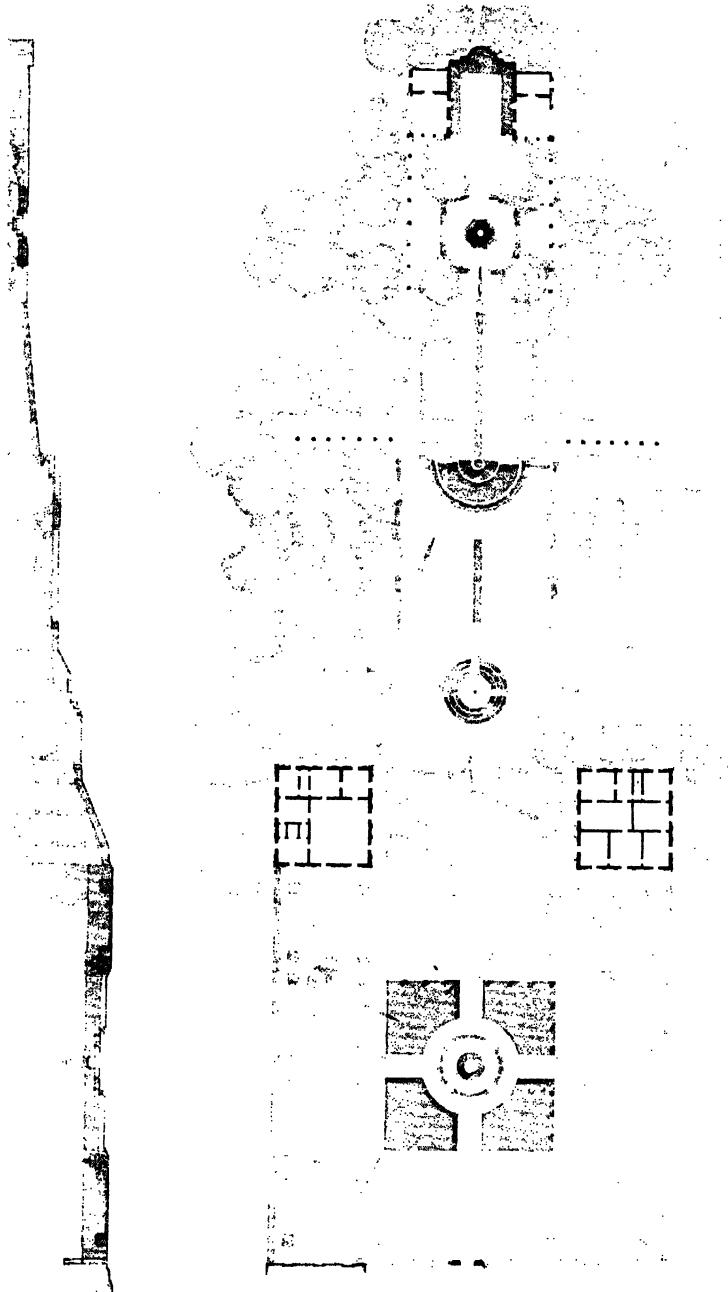


9. Epidaurus: fourth-century B.C. theatre



10. Perugino: Christ giving the keys to St. Peter

Sixtine Chapel



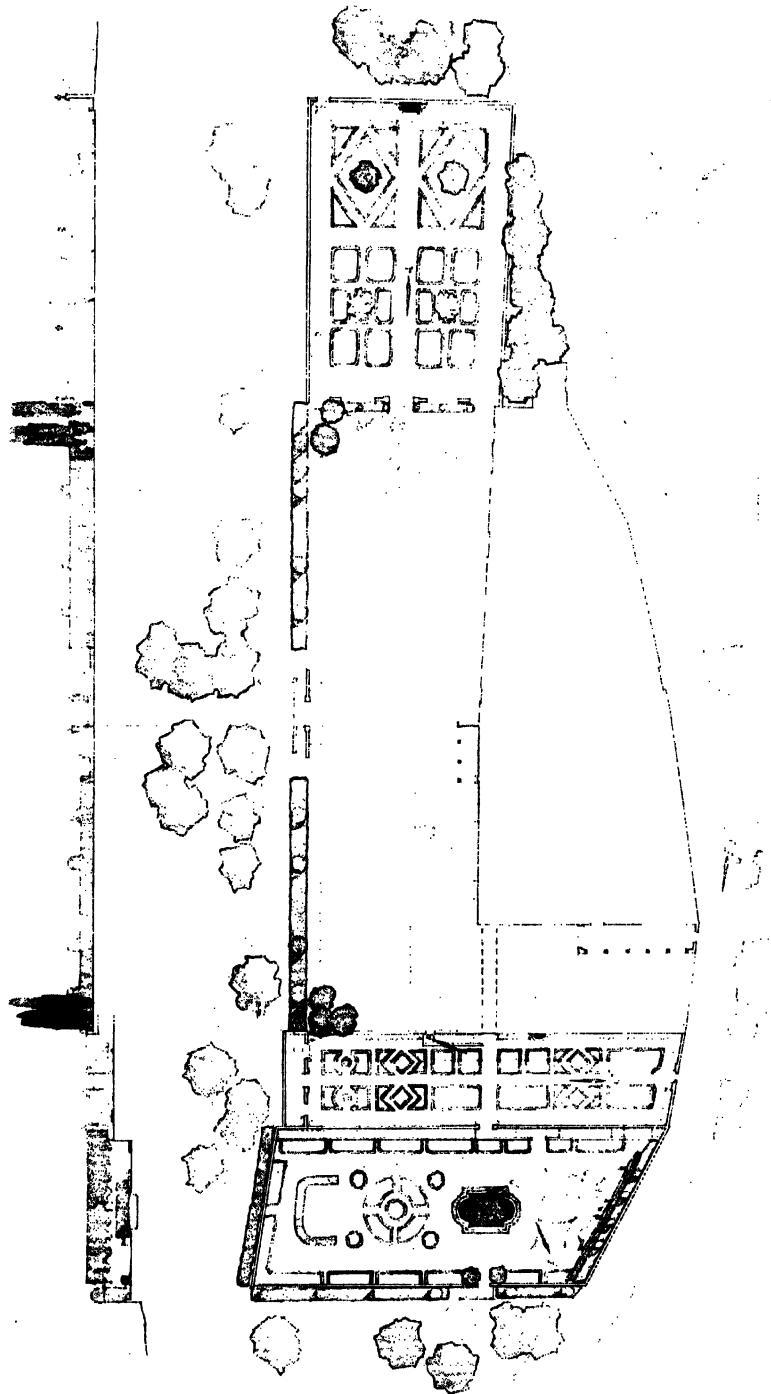
11. Villa Lante: Bagnolet, plan and section

12. BOTTICELLI: THE NATIVITY
WELCOME TO THE BOTTICELLI EXHIBITION
AT THE NATIONAL GALLERY OF ART
BALTIMORE
NOVEMBER 1970 - FEBRUARY 1971

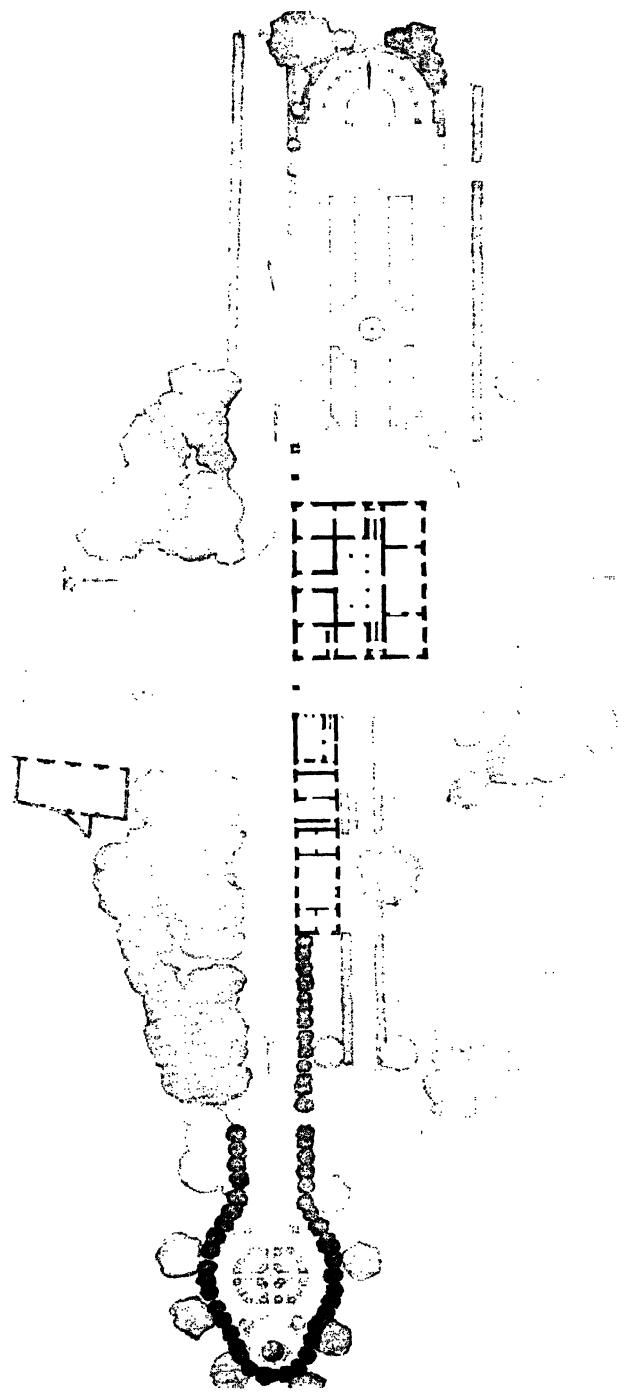


National Gallery

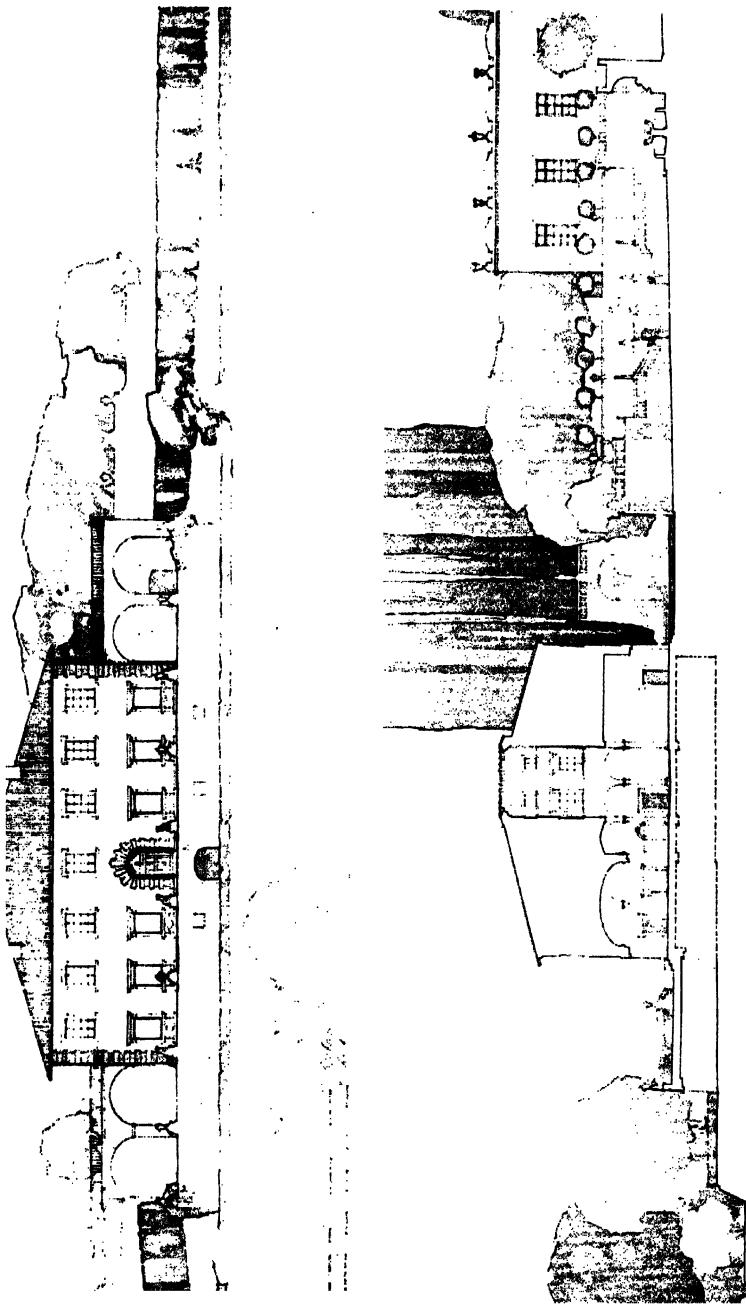
12. Botticelli: The Nativity



13. Villa Capponi, Arcetri: plan and section



14. Villa Camberiti, Serrignano; plan



15. Villa Gamberaia, Settimanno: sezioni

16. Giovanni Bellini: The Earthly Paradise



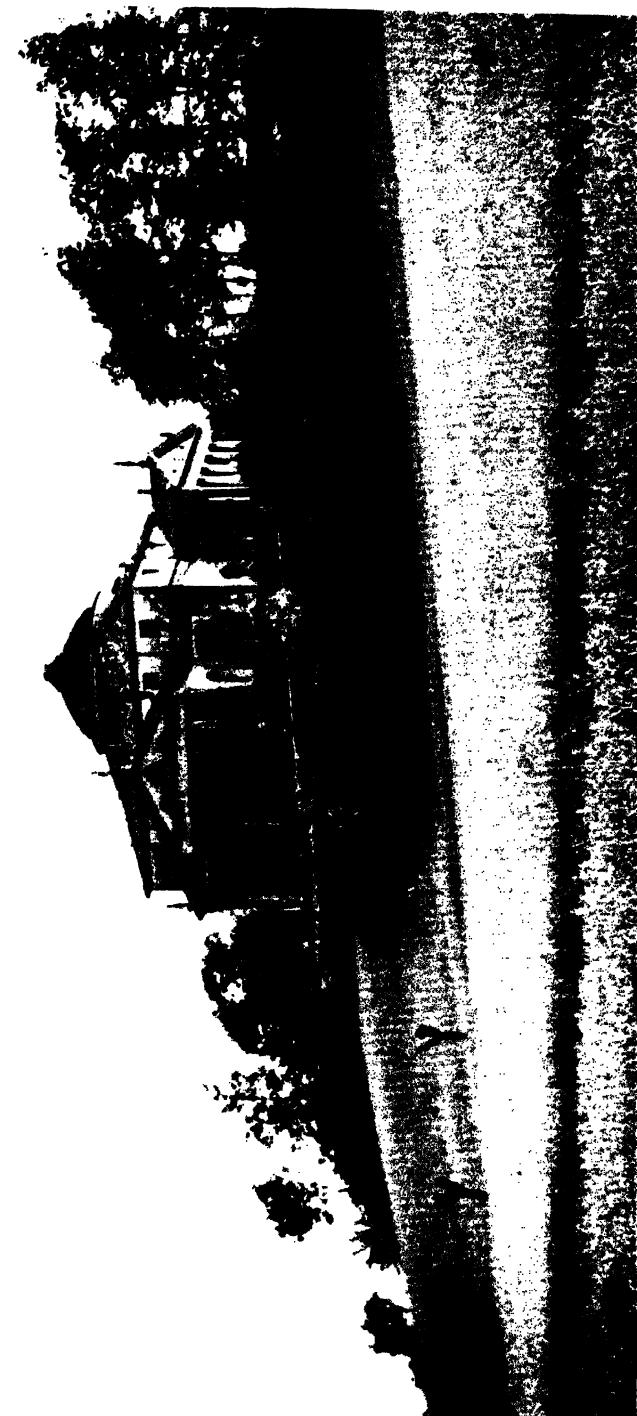


Kunsthistorisches Museum, Vienna

17. Tintoretto: Susannah and the Elders



18. Giorgione: detail of the Castelfranco Madonna



19. La Rotonda, Vicenza

20. Rubens: Landscape—summer



Art Institute, Chicago

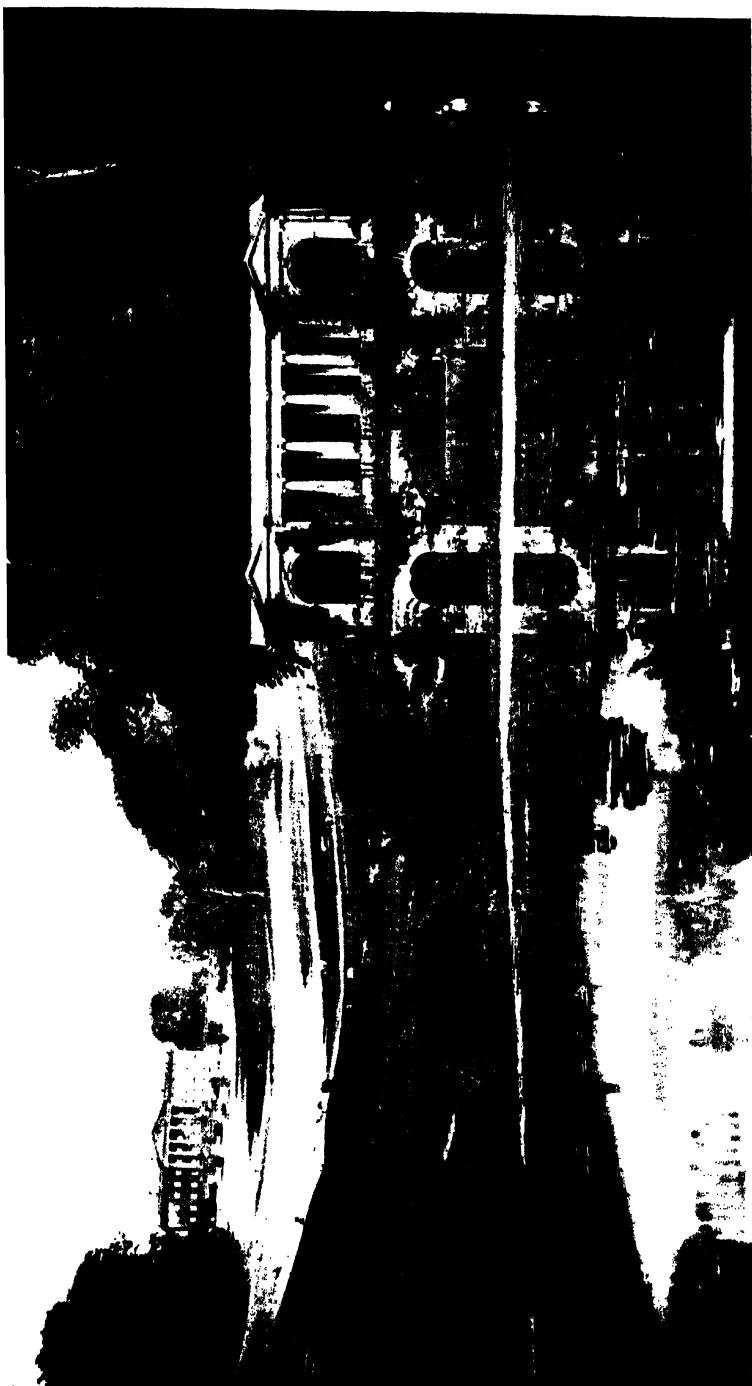
21. Nicolas Poussin: St. John on Patmos



22. Breuer: The Finding of Moses



23. Prior Park, Bath





Victoria & Albert Museum—Crown Copyright
24. Crome: Landscape with Cottages, sometimes called The Shadowed Road

(four or five feet), to command a better view of the sea towards the south, and of the parade towards the north; and also to prevent its being overlooked. With this intention, I propose the wall and the ground to be raised (above the eye from the Steyne, which may hereafter furnish a terrace walk, under a



Fig. 147. View of the East Front of the Pavilion, as it happened before the alterations were made.

double row of trees. This screen will preclude the necessity of making much alteration in the east front, which may,

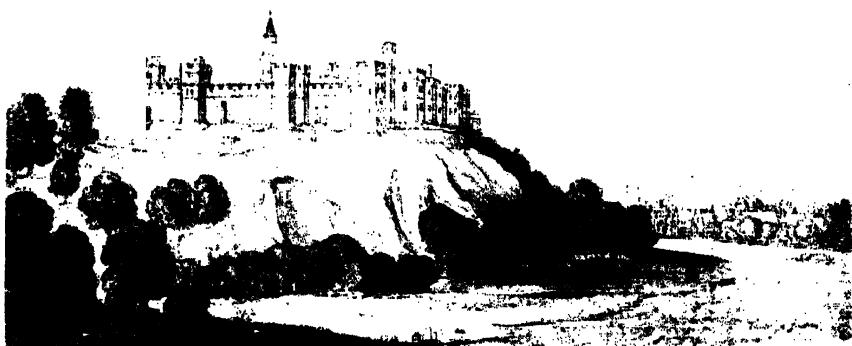


Fig. 148. View from the proposed private apartment of the Pavilion, on the supposition that certain alterations are carried into execution.

therefore, retain the Chinese character EXTERNALLY, in conformity with the INTERIOR fitting-up of this suite of royal apartments.

Fascimile of page from Loudon's 'Landscape Gardening'

25. Repton: Designs for gardens at the Royal Pavilion, Brighton



Windsor Castle

26a. Wenceslaus Hollar: Windsor Castle



Hampton Court

26b. R. Streeter: Boscobel House



British Museum

27a. David Cox: The Brocas, Eton



Victoria & Albert Museum--Crown Copyright

27b. David Cox: Windsor Castle



28a. Trentham: Gardens laid out by Barry and Nesfield



William Robinson: 'The English Flower Garden'
28b. Lawn Gardens at Golders Hill



Country Life

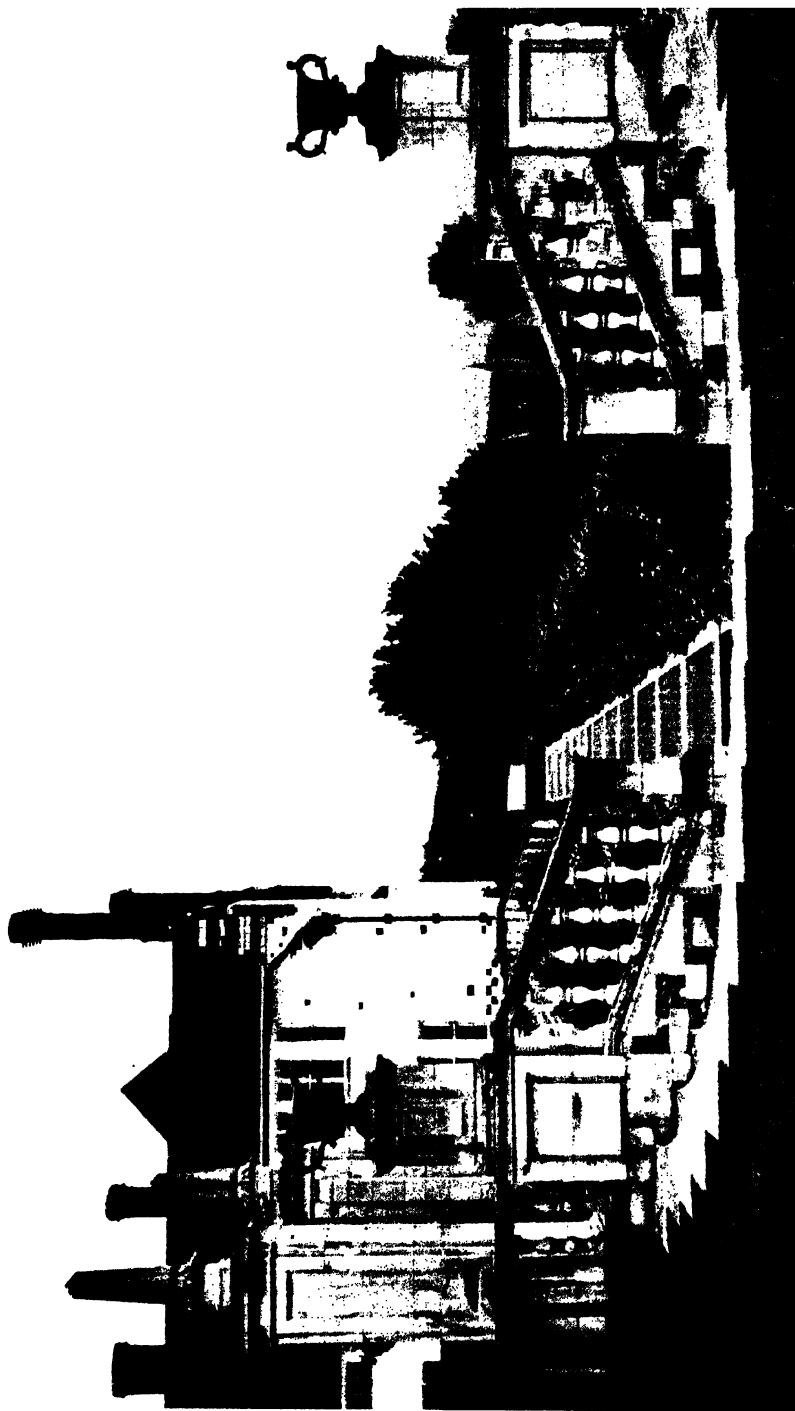
29a. Gravetye Manor: the flower garden, laid out by William Robinson

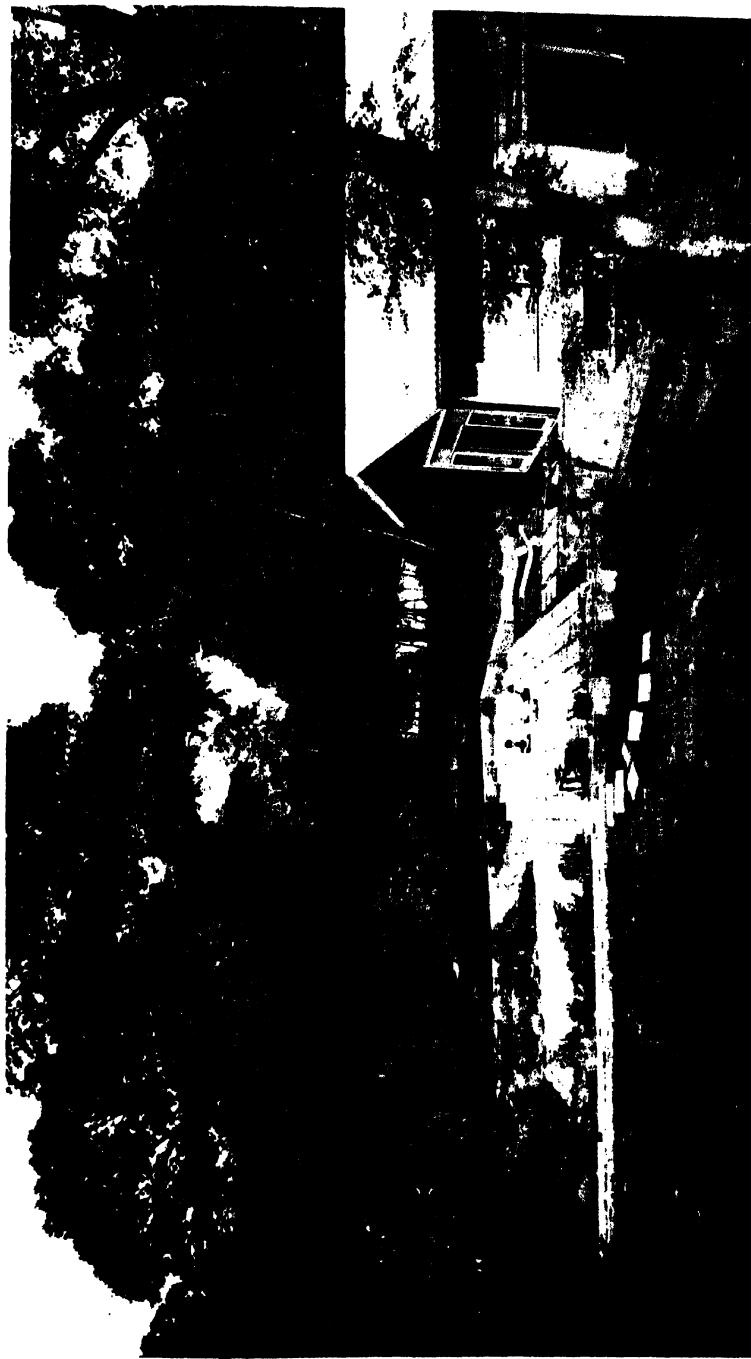


Country Life

29b. Munstead Wood: the glade, laid out by Gertrude Jekyll

30. Marshcourt: designed by Sir Edwin Lutyens





31. House and garden in Surrey: designed by Herbert Taylor and David Green

32. Cézanne: Lac d'Annecy



Nash: *Gros de Gagnes*, 1927

Lord Beaverbrook Gallery, Fredericton, New Brunswick





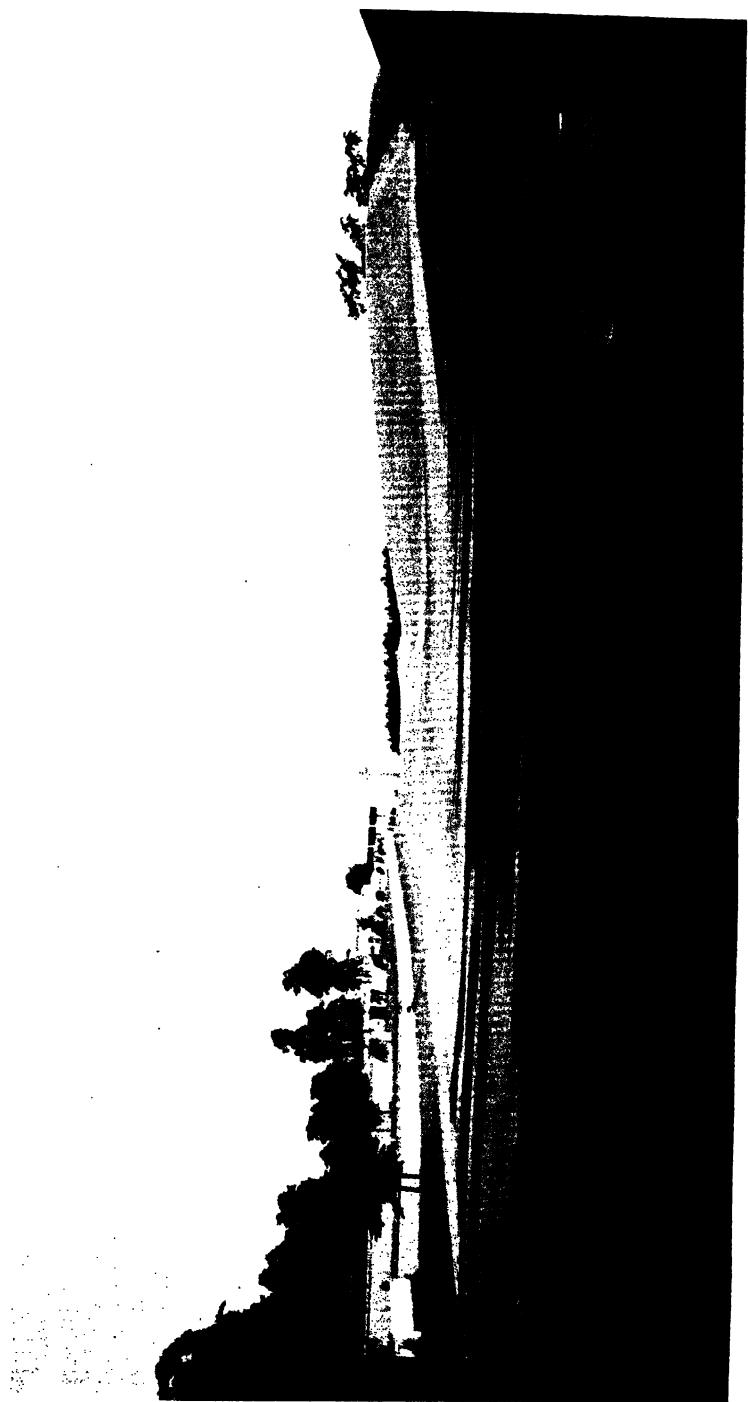
34. Housing for Loddon Rural District Council: designed by Herbert Tayler and David Green



35. Hallam, Sussex: designed by Serge Chermayeff.



36. Paul Nash: Nocturne—Landscape of the Vale, 1944

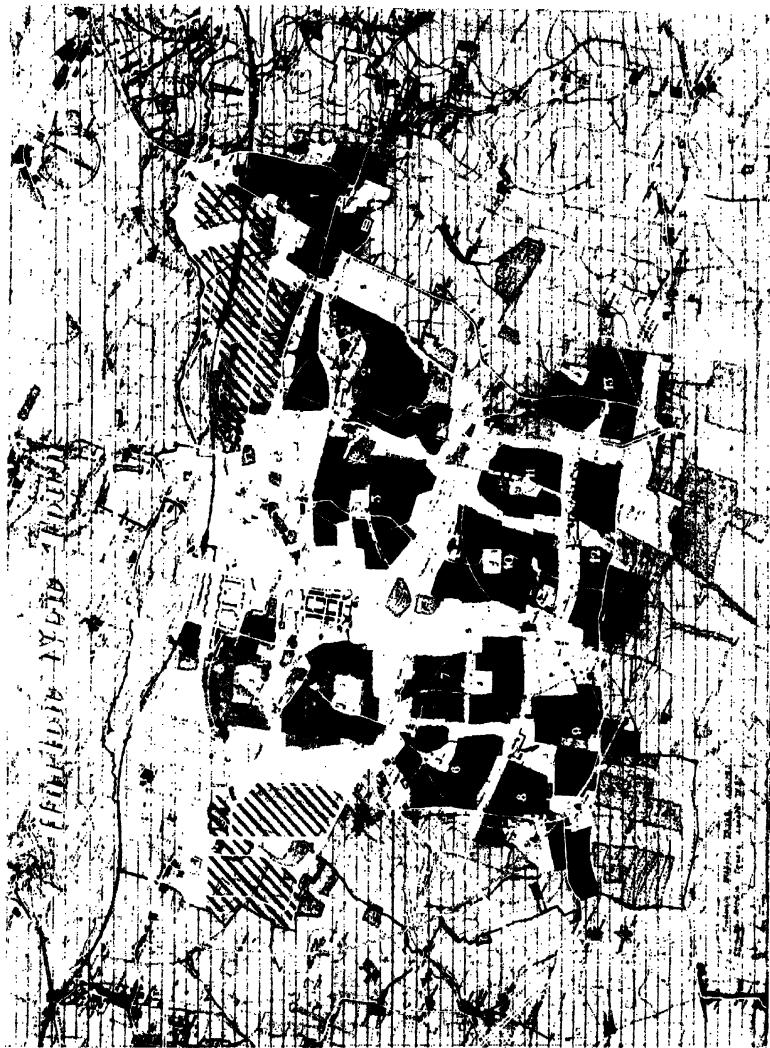


37. Woodland Crematorium, Stockholm; designed by Gunnar Asplund

38. Ben Nicholson: Mousehole, November 1947



MASTER
PLAN



39. First master plan for Harlow New Town by Frederick Gibberd



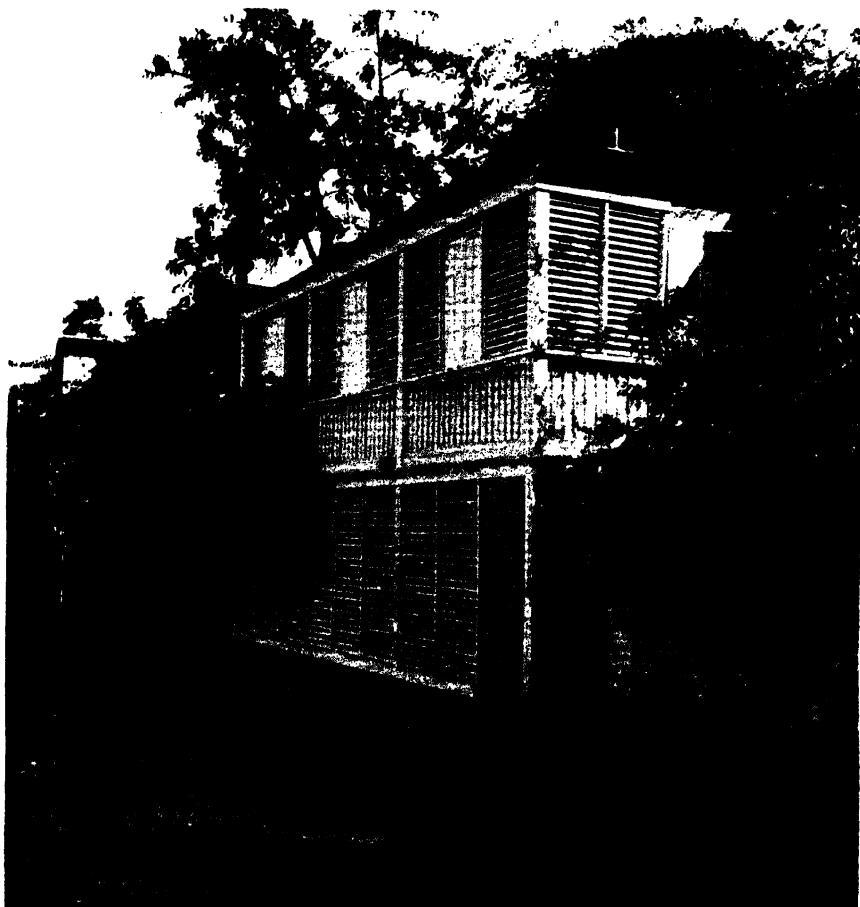
40. Graham Sutherland: Road between Boulders, 1940



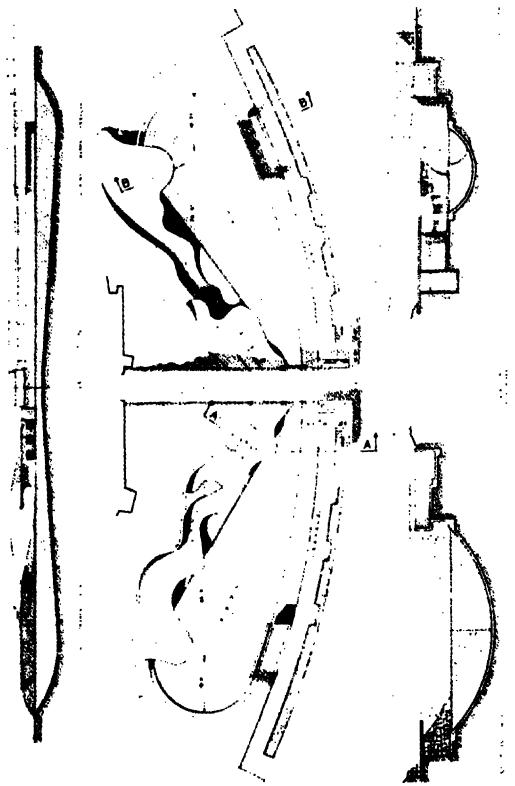
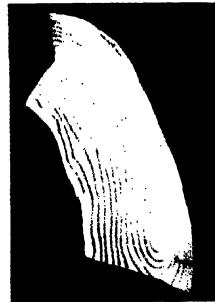
41. Rhodes's tomb at World's View in the Matopos, Southern Rhodesia



42. Tivoli Gardens, Copenhagen



43. House in Nassau, Bahamas



30 **THE SEA-LION
POOL**

The contour model, 32, shows the symmetrical and strongly moulded shape of the site for this pool in the Castle moat. The plan, 30, and the photograph, 31, show how this shape has been respected in the design of the pool. The two halves of the pool are joined beneath the central bridge which leads from the restaurant into the Castle court, and the sea-lions have an unrestricted length of over 200 feet for swimming. Special balconies for the public overlook the diving ramps at the deep parts of the pool. There are smooth and easily cleaned concrete slabs for the sea-lions to rest on, connected to the pool by ramps. The sleeping cages are placed centrally beneath the projecting slabs.

32 **ZOO AT DUDLEY, WORCESTERSHIRE**

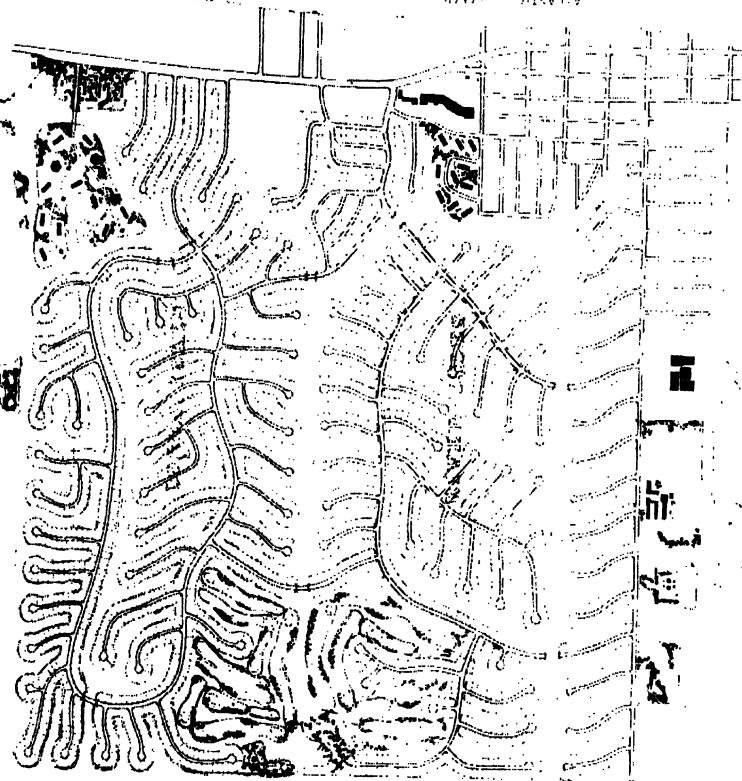
44. Dudley Zoo: plan of the sea-lion pool, designed by Lubetkin and Tecton



42. Youth Hostel at Holland Park: designed by Sir Hugh Casson and Neville Conder

A MASTER PLAN FOR
COCOA ISLES AND RIVER ISLES
COCOA BEACH, BREVARD COUNTY, FLORIDA

RECEIVED: DEPT. OF PLANNING & DEVELOPMENT
BREVARD COUNTY, FLORIDA



46. A master plan for the Cocoa Isles and River Isles, Florida; prepared by Eugene R. Martini & Associates



47. Model for Hope Valley Cement Works designed by G. A. Jellicoe



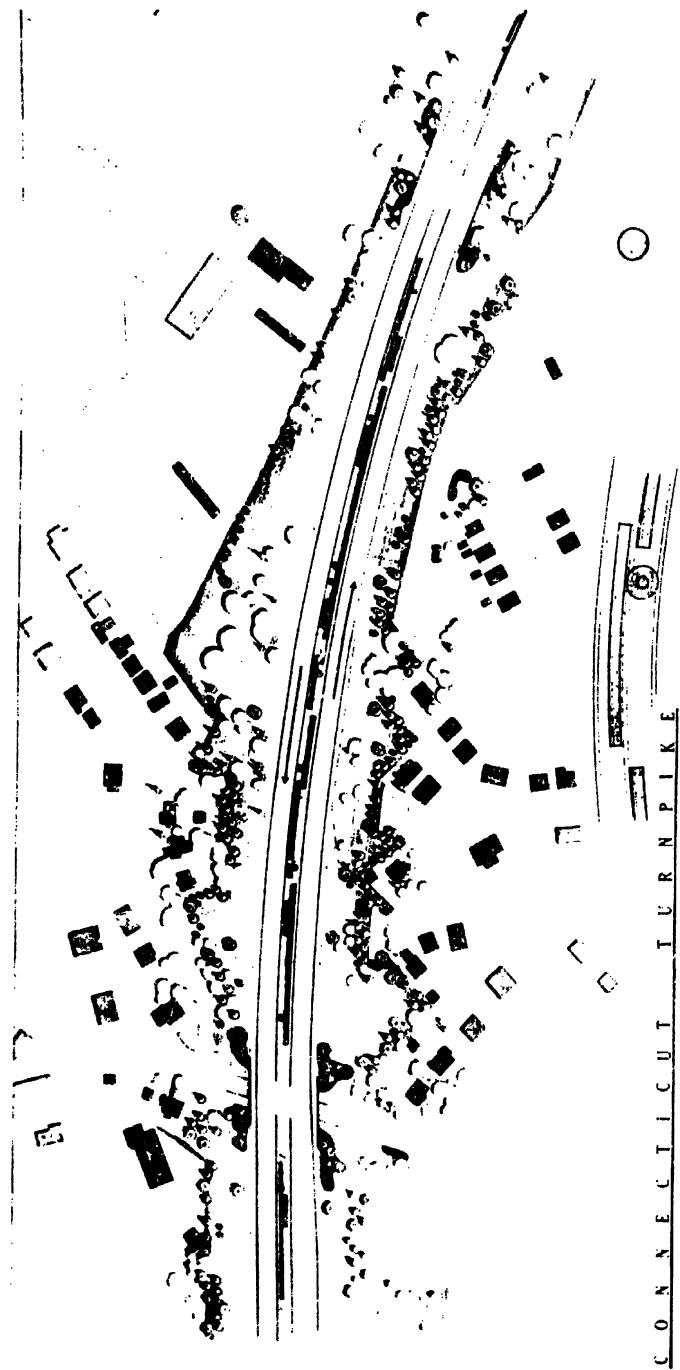
48a. Garden for municipal hospital at Waid, near Zürich
designed by Gustav and Peter Amman



48b. Children's playground on a housing estate near Copenhagen:
designed by Eywin Langkilde



49. House at Kevinge, Sweden: designed by Sven Markelius



SO. Connecticut Turnpike, U.S.A.; A. Carl Stelling & Associates, landscape architects;
Ernest T. Perkins, Chief of Planning, Traffic and Design, Connecticut State Highway Department



51a. Embankment on North End Road, Golders Green



51b. Cromwell Road Extension: London County Council



52. Ivon Hitchens: *Sea of Bracken*

Author's Collection



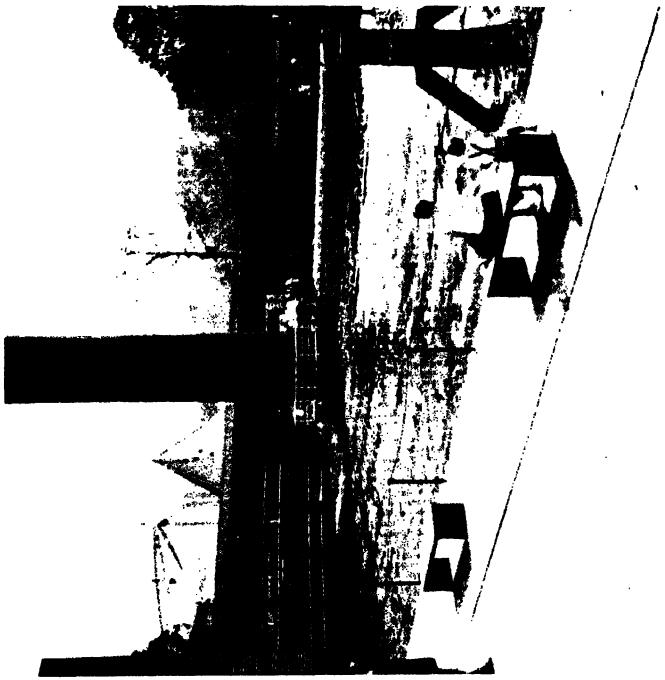
53. New approach road to Oxford



54. United States Pavilion, Brussels International Exhibition, 1958:
designed by Edward Stone



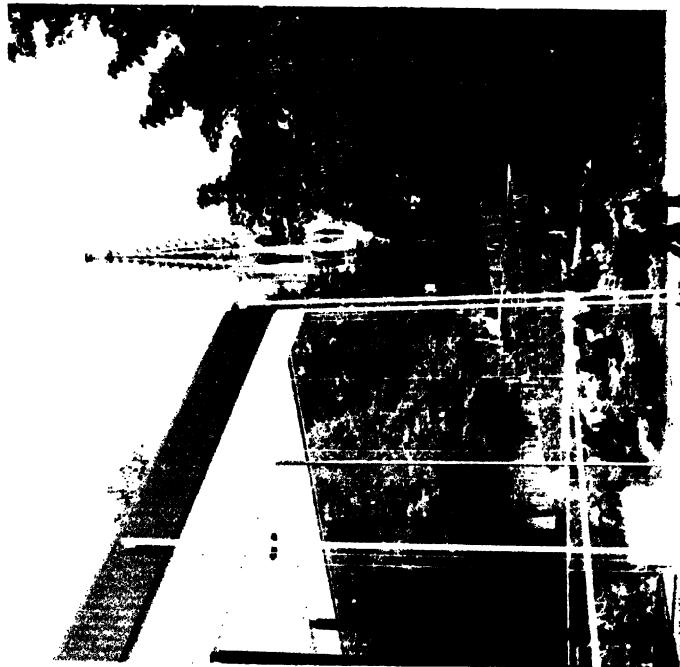
55b. Netherlands Pavilion, Brussels



55a. Netherlands Pavilion, Brussels; designed by van den Brock
& Bakema, Bakks, Teutz and Rietveld



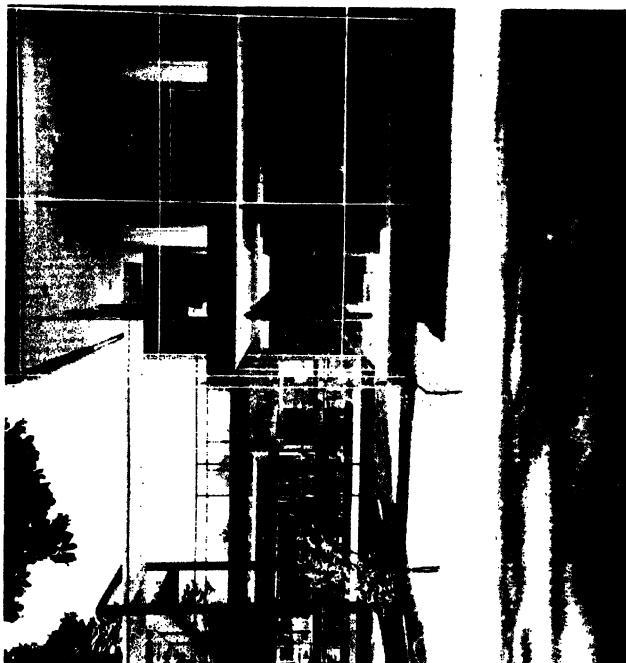
56b. West German Pavilion, Brussels



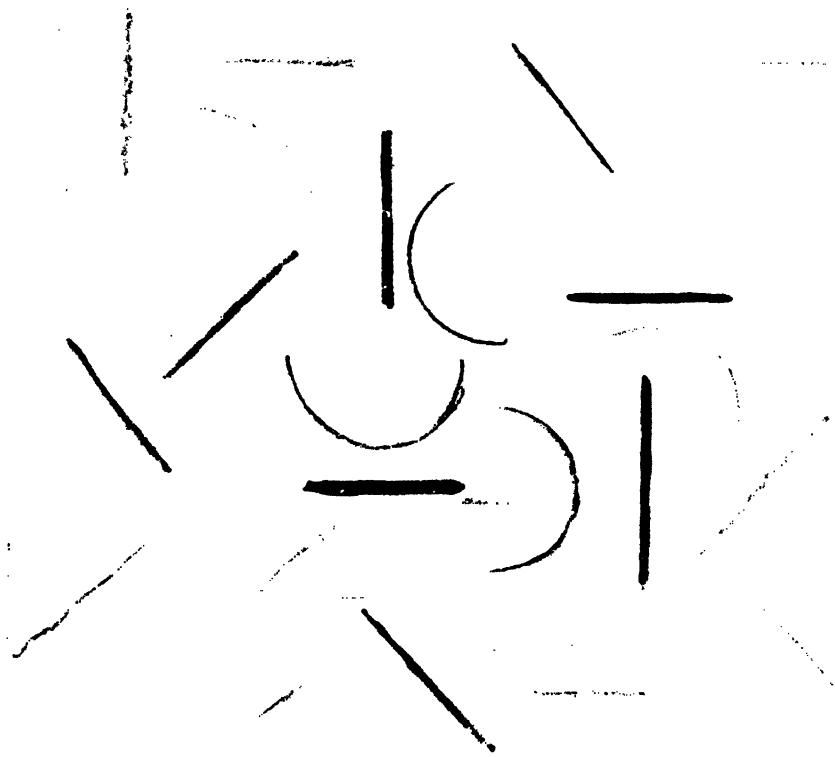
56a. West German Pavilion, Brussels, designed by
Egon Eiermann and Sepp Ruf



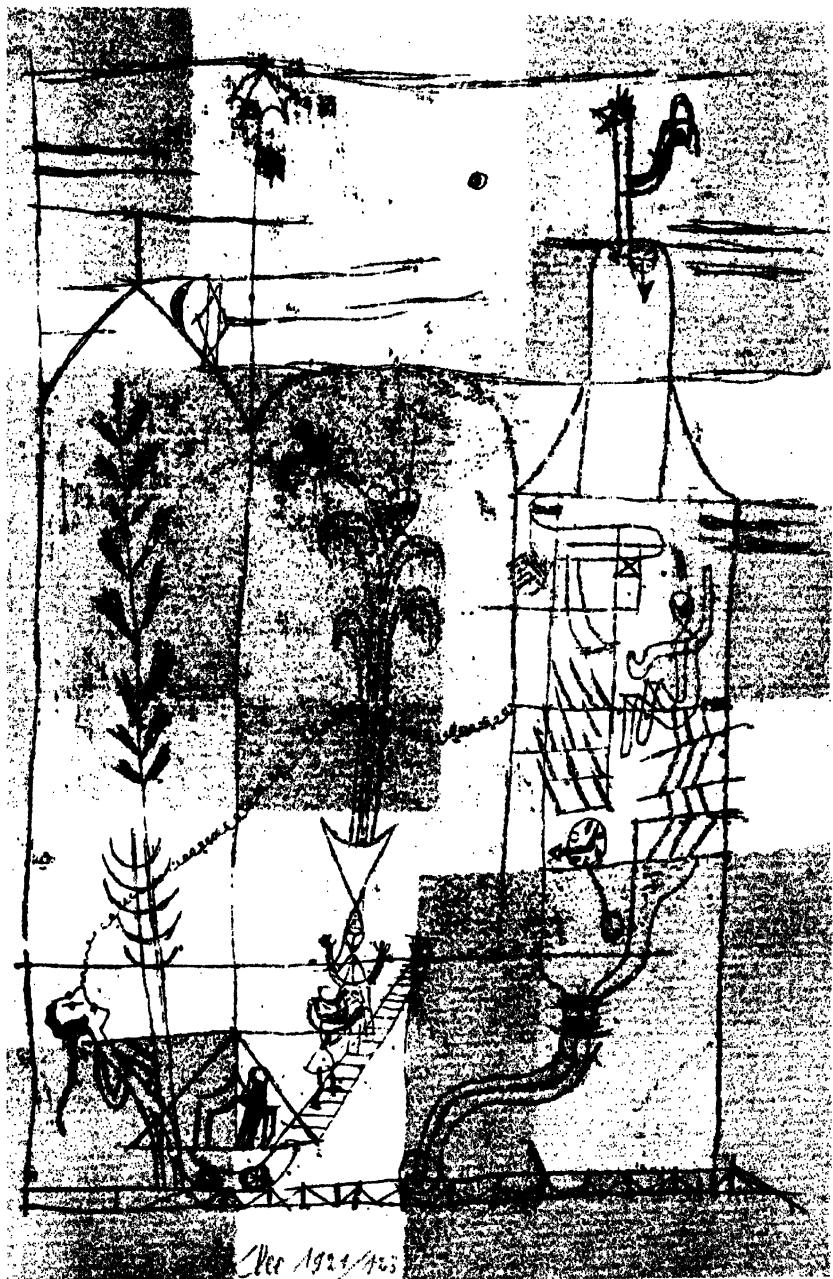
57b. West German Pavilion, Brussels



57d. West German Pavilion, Brussels



58. Victor Pasmore: Untitled



Clœ 1923/463

By courtesy of the Redfern Gallery

59. Paul Klee: Scene from a Hoffmann-like Tale



60. Henry Moore: King and Queen on the moors at Shawhead

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